LARGE SYSTEMS
REQUIREMENTS
IN FRANCE

A CUSTOM STUDY

FOR

NATIONAL ADVANCED

SYSTEMS (EUROPE)

CORPORATION

BY
INPUT LIMITED

APRIL 1984

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I. SAMPLE

A. ORGANISATIONS INTERVIEWED

- Eighteen (18) organisations were interviewed and are listed in Exhibit I-1.

  By CPU manufacturer the distribution, of the sample was as follows:

.	IBM	55%	(16)
.	NAS	21%	(6)
.	Amdahl	14%	(4)
.	Siemens	7%	(2)
.	BASF	3%	(1).

- A further breakdown of systems installed in respondent site locations is illustrated in Exhibit I-2.

- 44% of respondent sites were served by IBM only for CPU units with an equal number being multisourced. Companies which were multisourced were those with a requirement for a wide spread of suppliers, e.g. service bureauz and large manufacturing concerns.

- Most of the respondents used IBM, Memorex, STC of CDC for tape and disc requirements.

B. METHODOLOGY

- Companies interviewed were drawn from lists provided by NAS, France supplemented by companies in the Input data base.

- Due to the complexity and length of the questionnaire, combined with the general reluctance of respondents to divulge information over the telephone or by mail, the

EXHIBIT I-1

COMPANIES INTERVIEWED

Company	Sector	Supplier (CPU)
CHAUSON	MANUFACTURING	IBM/NAS
THOMSON	SERVICE BUREAU	IBM/~~SIEMENS~~/NAS
B.R.E.D.	BANK	IBM
C.I.S I.	SERVICE BUREAU	IBM/AMDAHL(CRAY/CDC)
PRINTEMPS	DISTRIBUTION	IBM
C.I.P.C.	INSURANCE	IBM
DARTY	DISTRIBUTION	IBM/NAS
GSITEL	SERVICE BUREAU	IBM/NAS/AMDAHL
E.D.F.	UTILITIES (PUBLIC SECTOR)	IBM
RADIOTECHNIQUE	MANUFACTURING	IBM/AMDAHL
RHONE BOULENC	MANUFACTURING	IBM
SOCIETE GENERALE	BANK	IBM
IIE	SERVICE BUREAU	IBM/NAS/BAS~~M~~F
EUROPEENE DE BANQUE	BANK	NAS
CREDIT COMMERCIAL DE FRANCE	BANK	IBM
B.U.E.	BANK	IBM (potential NAS client)
U.T.I.	SERVICE BUREAU	IBM/AMDAHL
H.B.M.	MANUFACTURING	~~SIEMENS~~

EXHIBIT I-2

DISTRIBUTION BY CPU/COMPANY

	No of companies	%
IBM	8	44
IBM/NAS	2	11
NAS	1	5
IBM/AMDAHL	3	6
AMDAHL	0	0
IBM/AMDAHL/NAS	1	6
IBM/SIEMENS/NS	1	6
IBM/BASF/NAS	1	6
SIEMENS	1	6
	18	100

29 CPU installations in 18 respondent locations.

majority of interviews, 15, were conducted on site. The average time taken to conduct an on-site interview was one and one half hours.

- Approximately sixty (60) companies were contacted overall, resulting in 18 completed questionnaires.

II. EXECUTIVE SUMMARY

A. KEY CONCLUSIONS

- NAS has been adequately well received in the French marketplace, as shown in Exhibit II-1, being regarded best of all (IBM, Amdahl, Siemens, and BASF) in price and price performance, and holding joint second place in respect of compatibility. It exceeded target ratings in 12.5% of 24 main parameters.

  NAS was also rated better than:

  - IBM in 25% of the parameters
  - Amdahl in 21% of the parameters
  - BASF in 71% of the parameters
  - Siemens and NAS tied in 50% of cases, but surpassed Siemens in the following: price, performance/price ratio, compatibility, quality, environment, and consulting.

- Performance ratings were applied by specific users of that equipment e.g. IBM users rated IBM only on performance whereas perceptions, all users were free to rate all vendors.

- Despite product excellence, performance and reliability, compared to its major competitors, NAS does not compare so favourably with regard to support, and other factors which related to company attributes (overall communication capabilities, personnel interface, and particularly company stability, image and strength).

- Reflecting the lack of knowledge of non-NAS users about NAS and its products, in overall perception ratings, NAS only achieves third place regarding price, and product range capability, and gains fourth place with respect to company strength, credibility, personnel performance, and surprisingly also, product performance.

EXHIBIT II-1

NAS RATING	NAS	ALL	TARGET	IBM	SMS	AMD	BASF	ALL	TARGET	IBM	SMS	AMD	BASF
Price	1	1	x	x5	x2	x3	x3	-	-	-	-	-	-
Performance	3	-	no	x4			x5	-	x		x1	x2	-
Price/ performance	1	1	x	x5	x2	x3	x4	-	-	-	-	-	-
Compatability	2	-	-		x4		x5			x1		equal	
Upgradeability	4	-					x5		x	x1	x3	x2	-
Reliability	3			x4		x4					x1		x2
Availability	4			x5		x			x		x1	x2	x2
Quality	4				x5					x3		x2	x2
H/ware support	3				equal		x5		x	x2		x2	
S/ware support	2				x4	x3	x5			x1			
Stability	4						x5		x	x1	x1	x1	
Service organisation	3						x5		x	x2		x1	
Support personnel	3				x4		x5			x2		x1	
System support	3				x4		x5			x1		x2	
Communications	4									x1	3	x1	x3
Reputation	4						x5			x1	x3	x2	
Credibility	4									x1		x1	x3
PERCEPTIONS													
Product range	3				4		5			1		2	
Product performance	4						5			1	3	2	
Product reliability	2				4	3	5			1			
Price	3			4			5				2	1	
Image	3				4		5			1	2	2	
Strength	4						5			1	2	3	
Personnel	4						5			1	3	2	
%		12.5	12.5	25	50	21	79	4	58	75	50	71	17

- As long term stability (both product and company) is very important to French company users, some attention must be paid to increasing user awareness of the company's existence and competence to rectify this situation.

- Loyalty by users is generally good (more so for sole IBM users), but all display a flexibility in considering other vendor quotes for new procurement - for a number of reasons, the main ones being:

  - cost and economic considerations
  - product comparison
  - more attractive and flexible commercial arrangements.

- It is generally very difficult for users to dissociate company from product loyalty as a multiple number of factors are considered when assessing DP acquisitions. IBM sole users tend to be more loyal for company attributes rather than product related attributes. Many are dissatisfied with the level of performance of the machines but compromise by being assured of security, generally high levels of support and good communications between user and supplier.

- Slightly more respondents are willing to change vendors than are not willing to change their existing vendors of large systems equipment.

  Reasons include:

  - cheaper product with same compatibility
  - proven superior product performance and reliability
  - a more cost effective and justified solution
  - "put pressure on IBM"
  - as long as a number of criteria were fulfilled
  - technical excellence, assured upgradeability and compatibility with existing systems.

- Those users unwilling to change were essentially fearful of basically moving into uncharted territory. Reasons stated include:

  - were already multisourced
  - unsure about the capabilities of PC suppliers, especially with regard to their credibility, capabilities and stability.
  - past experiences had ended in disaster (conversion cost, development, time, investment in personnel and equipment). who?
  - lack of supplier visibility and communication.
  - fears regarding MVS X.A. compatibility.
  - French users are more inclined to opt for IBM than Japanese suppliers for psychological reasons.

- NAS was praised by its users for the high performance and reliability of the product, excellent price/performance and good rapport with the company (new users).

- However disaffected NAS users are not so praiseworthy. One company stated that their current NAS product was nearly obsolescent and had had no communication with the company for over a year. Upgradeability was also a problem as the current installed NAS products were not directly upgradeable.

- Another NAS user said that although the company was good, the product range was currently inadequate, with no intermediate machines. It is apparent that the company is making admirable efforts to target and achieve sales, but that this effort is somewhat dissipated as soon as the sale has been met. Effort must therefore focus on increasing company visibility and maintaining continual interface with client users.

- IBM users were pleased with the level of service and communications provided by the company. The company

scores highest of all in areas related to support, maintenance, general back-up and support services, company reputation (both actual and perceived) and overall communications.

- As borne out by respondents' comments, NAS products are rated very highly but the company falls short of expectations with regard to after sales service, support and communications.

- Also there are actual and perceived problems regarding the upgradeability capability of NAS current product range: non-NAS users who have reviewed NAS products into past also reiterate this fear and anxiety. The upgradeability path is still far simpler with IBM especially with the trend towards MVS X.A. currently developing on France.

- Although NAS users believe NAS hardware to be superior, IBM maintenance and support is still seen to be better. This in spite of the "disrespect" displayed regarding IBM's imperialistic attitude, arrogance, unethical business pressures, rigid contractual agreements, bureaucratic behaviour, and inflexibility.

- Candid remarks regarding what it would take to be sold and consideration of changing vendors from respondents are summarized in Exhibit II-2.

- In France, NAS suffers also from two major drawbacks - the physical presence of IBM and the fact that it is distributing a Japanese product.

    - One large user is purchasing IBM equipment, even though it costs 40% more than a comparable product.

- As IBM has manufacturing capabilities in France (producing CPU units in Montpellier) and thus is a provider

EXHIBIT II-2

"What would it take for your company to be sold on another vendor?"

IBM User: "IBM would need to make serious errors; we would need convincing that the company could provide technical excellence and follow the mvs x.a. route; must assure good A.S.S. ADB and competent personnel."

IBM/AMDAHL User: "Cheaper product with same compatibility and reliability."

IBM/NAS/AMDAHL User: "Assurance that there were no risks, we've had bad experiences in the past with compatible suppliers."

IBM/NAS User: "There will always be a market for compatibles due to the economic climate. But we would demand true compatibility and an easy upgrade path."

IBM User: "Only interested in peripherals, not CPU, we buy second hand IBM equipment."

IBM User: "If guarantees for reliability, very good maintenance capability, price/performance ratio, are assured. However one CPU will always be IBM for reliability of service, performance. The 3083 enables upgrades to be done on client site, we need to protect our product investment."

NAS user: "NAS would have to disappear."

SIEMENS User: "We've been using compatibles since 1976. But we've had problems with NAS (product implementation and price - lack of intermediate product to suit our requirements)."

EXHIBIT II-3

"Would you consider buying any future requirements from any supplier (IBM, Amdahl, NAS, Siemens, BASF) other than your own?"

IBM/NAS User: "No, due to inherent interface compatibility problems."

IBM/NAS/SIEMENS User: "If provided with a cost effective solution, with assured maintenance, and protected investment, then yes."

IBM User: "It's possible, but there is still an undeclared preference for IBM in this company (bank). Compatible suppliers tend to compete on price only and this is a far too simplistic approach, we are more sophisticated than that."

IBM User: "PC products may be better but we don't know whether they're going to be around in a couple of years. They lack strategy and definition of purpose."

IBM/AMDAHL User: "Certainly as long as the following are fulfilled, responds to technical specification, at a cheaper price than IBM with irreproachable continued service and support."

NAS User: "We are perfectly satisfied with NAS - so the answer is no ."

IBM User: "If it's a choice between IBM and the Japanese, then we'll stick with IBM."

IBM/NAS User: "Compatibles will always have an uphill battle. Credibility stability and reliability are all extremely important, IBM has all three. Even if compatible suppliers, surpass in some categories, they still cannot offer a total solution which is satisfactory to the client. The major problem with compatibles is software compatibility. Software is more important than the hardware. NAS machines are not directly upgradeable. IBM is."

AMDAHL/IBM User: "We didn't follow up the Hitachi/NAS option as we're fearful that there would be problems regarding the upgrade path."

AMDAHL/IBM User: "Yes - if IBM service and AMDAHL prices."

of employment, its activities are largely sanctioned by the French government. It has also become far more aggressive in its marketing and commercial activities in the national market, projecting itself as essentially a French company (which it is in the sense that it employs French nationals and is judicially autonomous from the US company) and fuelling the fears and doubts users may have regarding competitive equipment.

- Despite the fact that there are no indigenous compatible suppliers in France, French companies would still prefer, where possible, to purchase from a European supplier, or failing that from IBM France. Althogh it is known that Siemens, BASF, and Amdahl distribute Japanese equipment, the link is not perceived so strongly as the NAS/Hitachi option.

- Siemens is still seen as a European company with a solid reputation, reliable products, and good personnel. Although it has not had a very strong presence in France, the company is now developing strategies to penetrate the French market.

- Also Siemens and Amdahl have more flexible commercial arrangements than NAS.

- Some non NAS users say that the price is still too high and too much of a gamble.

B. RECOMMENDATIONS

- Based upon users' commentary, ratings and perceptions, NAS should attempt more aggressive policies on several fronts.

    - It should capitalise on its actual and perceived strengths:

- product performance
- price
- company references
- hardware support
- product reliability and compatibility.

- It should direct campaigns against IBM (highlighting weaknesses) and Amdahl in particular, embracing advertising campaigns, seminars, aggressive marketing, employing high calibre sales and marketing personnel.

- Campaigns should focus on convincing non users that compatibility and upgradeability are assured, as are also after sales service, and support. They also need to be convinced of the stability, strength, expertise, capabilities and product investment capability of the company.

- Some efforts should also be focused on maintaining close rapport with established NAS users, providing consulting services for DP company development, updates on products and strategies.

- Another area to counter is the generalised common policy of a fair number of French companies to acquire second hand IBM equipment through brokers or leasing companies.

- The company should adopt flexible commercial policies with their clients, to effectively compete with Amdahl and Siemens.

- The company must adopt the image of a French company and attempt to dissipate users' anxieties about the Japanese connection.

- As IBM has such powerful connections in the French government, some attempt should be made to acquire some presence within thse circles.

- Since IBM also has close connections with top management in large French concerns, NAS must also attempt to influence these decision makers (usually presidents of of companies) emphasizing the strong points of the company - better pricing, current user satisfaction, ease of use, less complexity than IBM.

- It is important to home in on user comments during the survey regarding their willingness to purchase from other vendors, notably,

  - a "total solution" approach
  - good personnel and executive relationships
  - flexibility on commercial arrangements
  - excellence in technical expertise
  - guaranteed compatibility and upgradeability
  - credibility, strength and image of the company.

III. STUDY FINDINGS

A. LOYALTY

- Loyalty parameters and rationale are detailed in Exhibits III-1 and III-2. Respondents display loyalty to their suppliers but overall show flexibility with regard to assessing other suppliers for new procurement.

  - IBM users how the greatest degree of loyalty.

  - IBM only users state that they will review alternative suppliers but this is usually to provoke IBM, and is not generally applicable to CPU purchases.

- Users of compatible equipment suppliers (NAS, Siemens, Amdahl, BASF) show a healthy degree of loyalty.

- The main factors attributing to vendors' loyalty are past and current company and product performance, cost effectiveness, compatibility and dependability.

- In the case of IBM users, "other criteria include high levels of support and service, security, assurance of long term stability, protecting long term product investment, upgradeability and delivery.

- One multisourced IBM user commented that although there was preference for a non-IBM CPU acquisition, higher echelons of management would dictate the purchase of IBM machinery in order to keep the peace with IBM.

- Loyalty to non IBM suppliers (NAS, Siemens, Amdahl and BASF) is largely influenced by cost and economic factors but also by high product performance and reliability. Exhibit III-2.

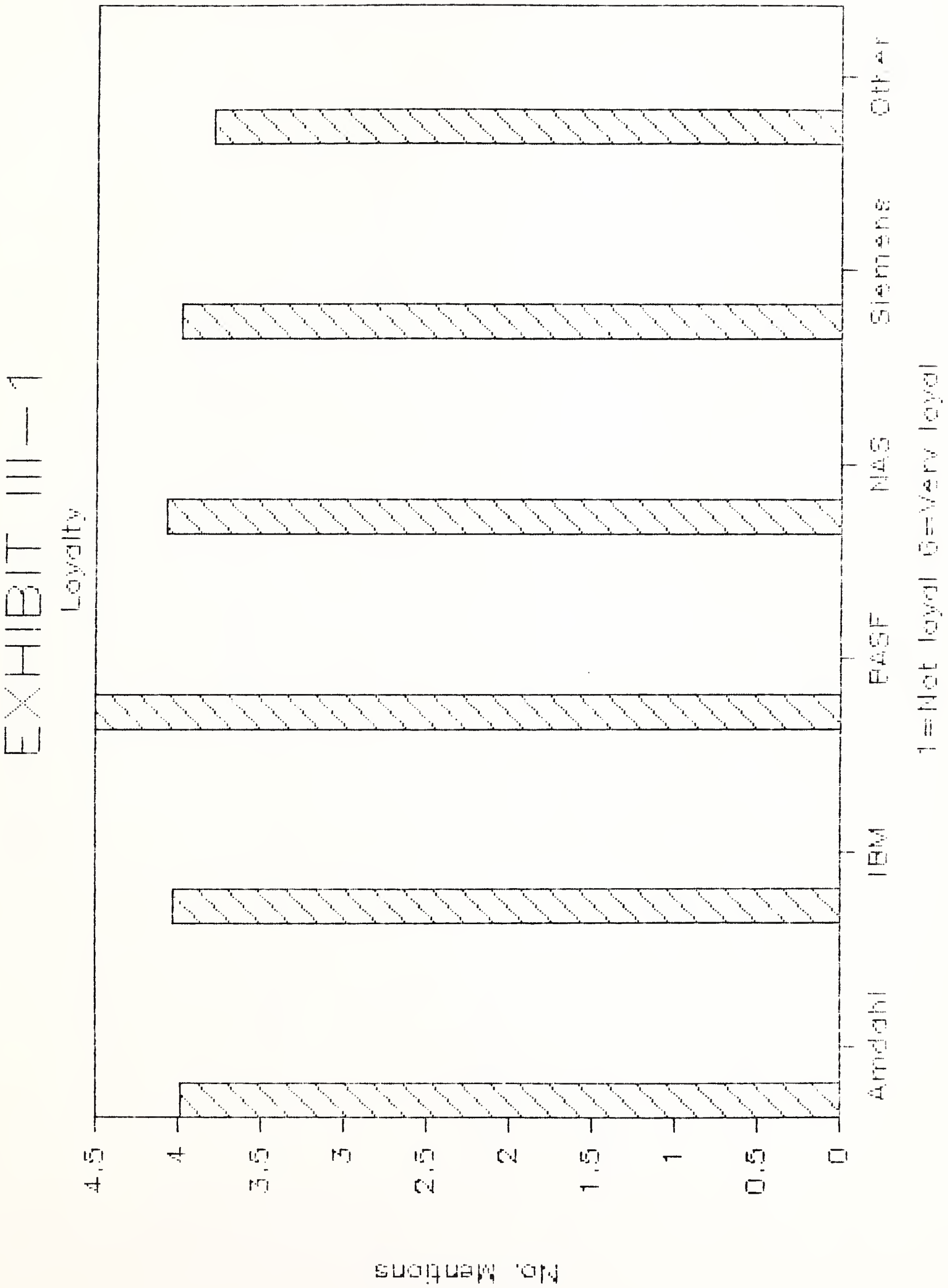
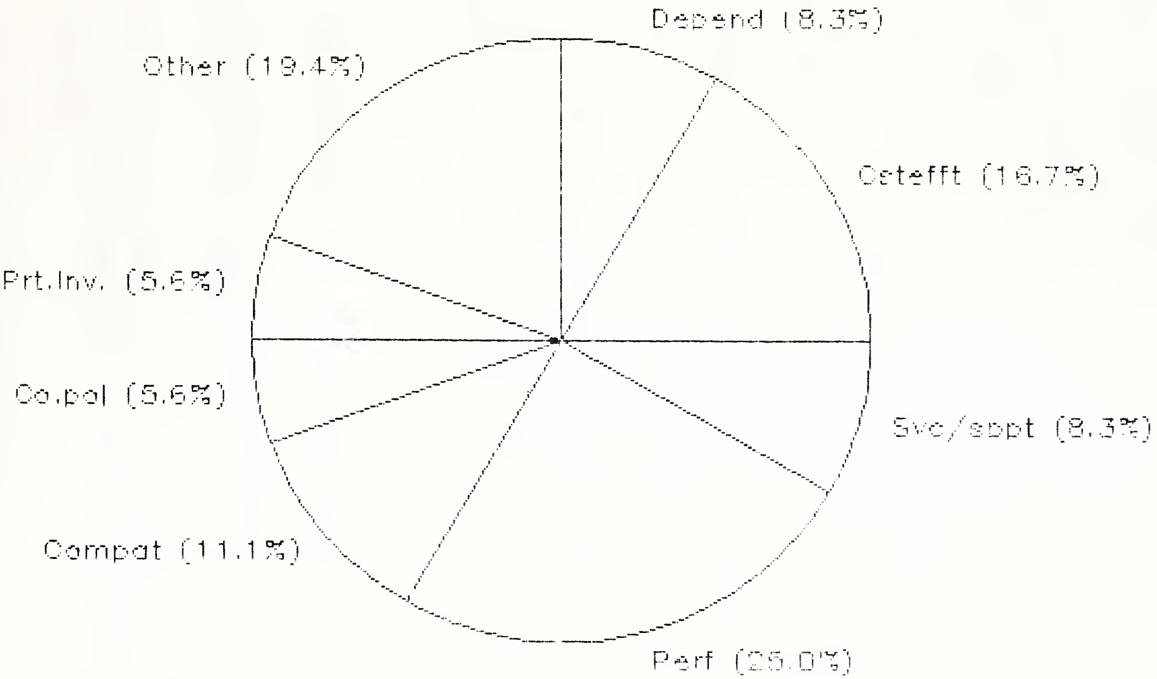


EXHIBIT III—1

Loyalty

EXHIBIT III—2

Loyalty Rationale



- Exhibits III-3 and III-4 show the nature of product loyalty in terms of whether the association with loyalty is company or product related.
    - It is very difficult for respondents to dissociate product loyalty from company loyalty as Exhibit III-3 shows.
    - However IBM only users are more likely to base their loyalty on supplier related factors than product attributes (see under vendor irritants and pleasures).
    - Service bureaux however comment that their loyalty is initially assessed on the capability and performance/reliability of the product.
- Rationale for loyalty - either company or product oriented shown in Exhibit III-4 is closely related to overall loyalty (Exhibit II) as experience, product and company performance rate most highly.

2. PLEASURES AND IRRITANTS WITH PRODUCTS AND VENDORS

- Exhibits III-5 through III-8 summarize users' opinions regarding products and vendors.
    - The most pleasing vendor attributes included support, maintenance (IBM users, Siemens and Amdahl) and dialogue.
    - NAS users were well satisfied with the high level of performance and reliability of the product and ancillary services. One NAS user commented that NAS~~CO~~ was ten times better than IBM on software maintenance.

EXHIBIT III—3

Co. Vs. Prod. Loyalty

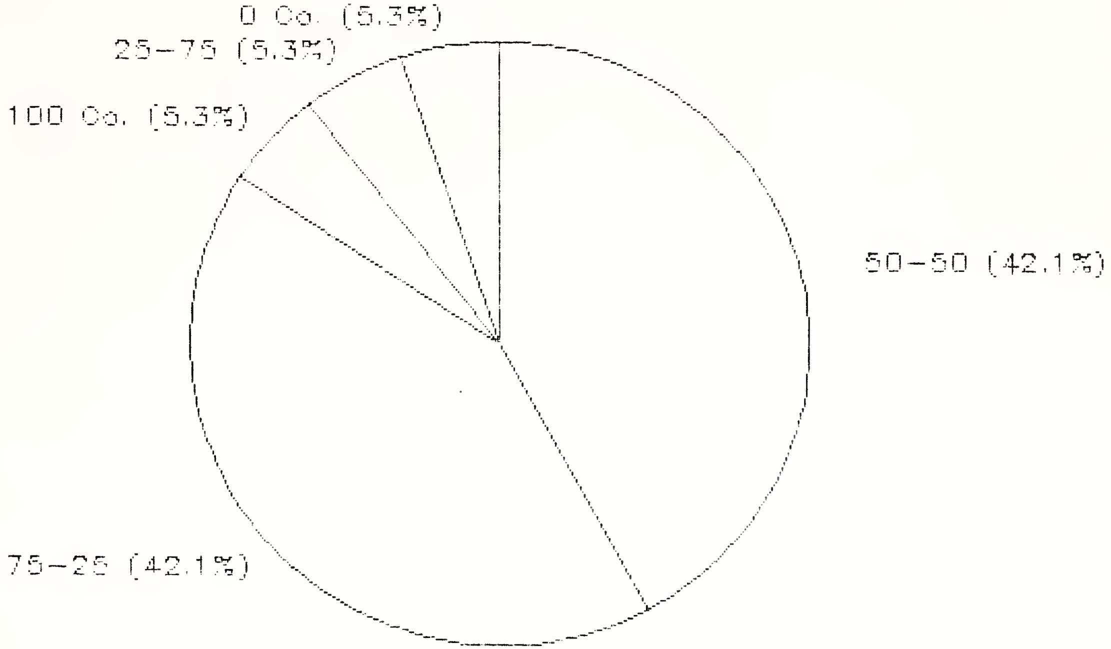


EXHIBIT III—4

Co. Vs. Prod. Loyalty:Rationale

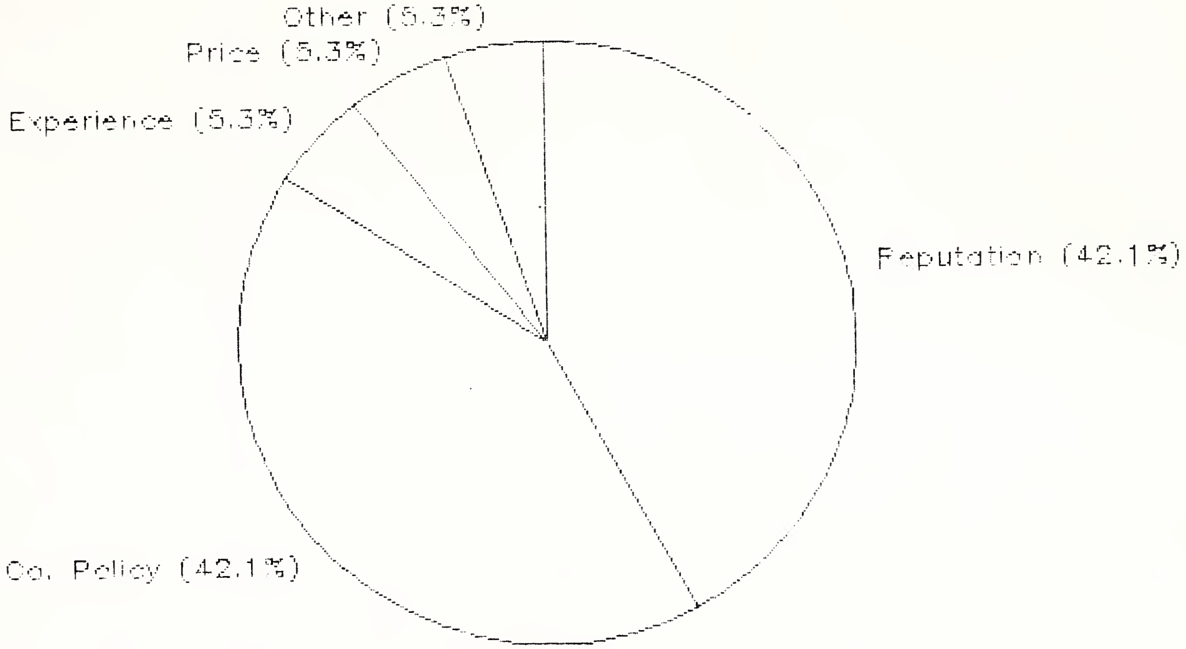


EXHIBIT III—5

Vendor Pleasures

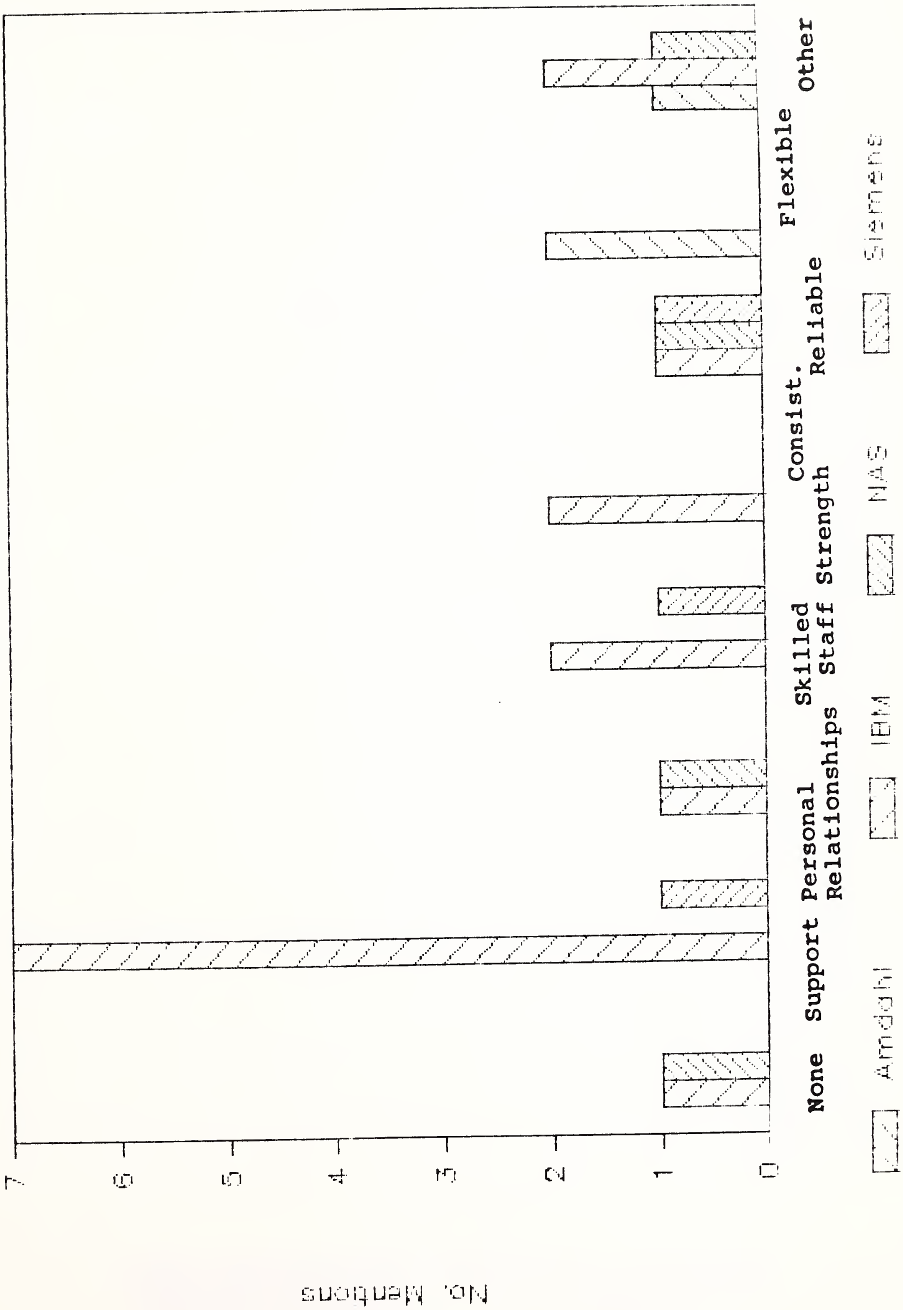


EXHIBIT III-6

Vendor Irritants

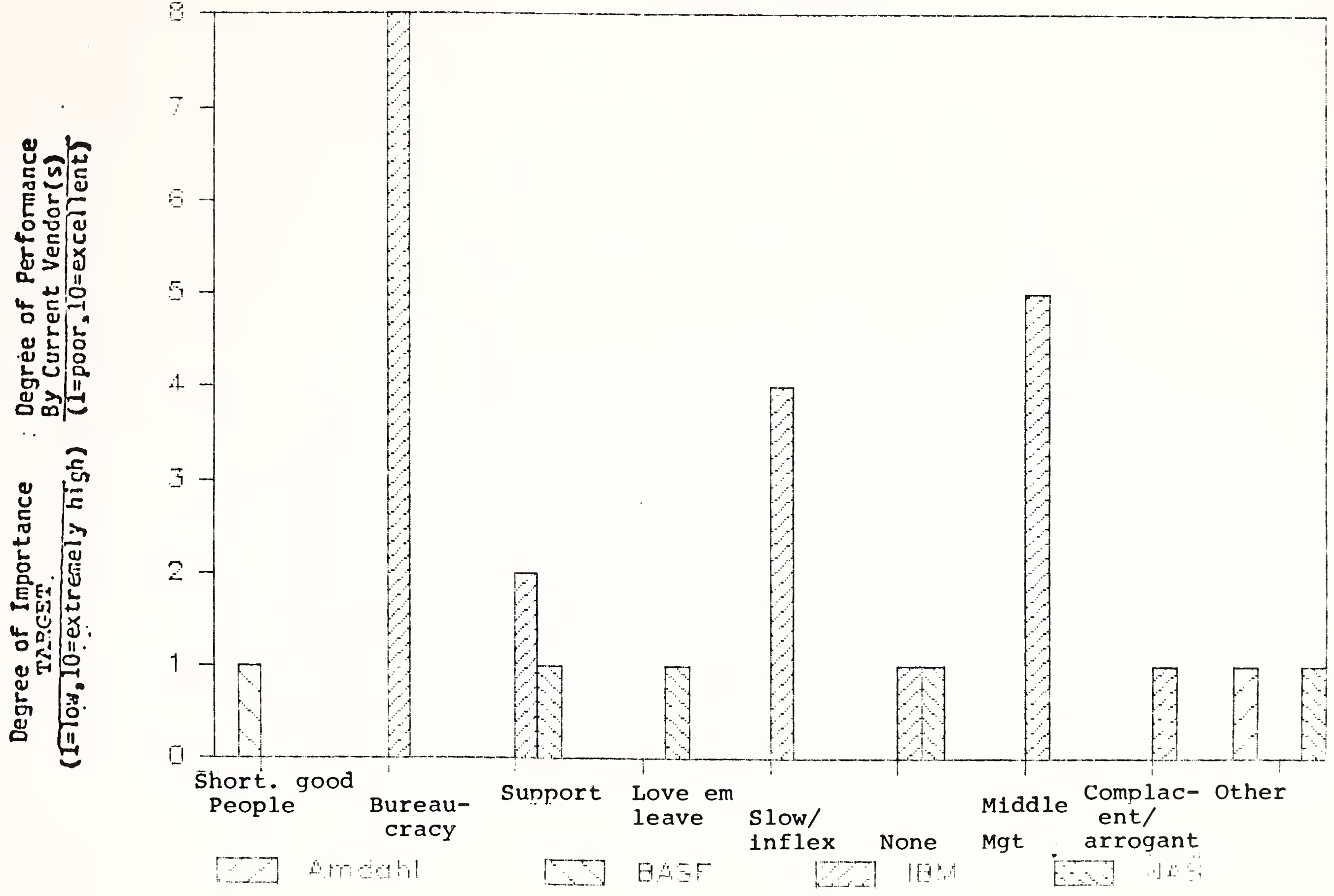


EXHIBIT III—7

Product Pleasures

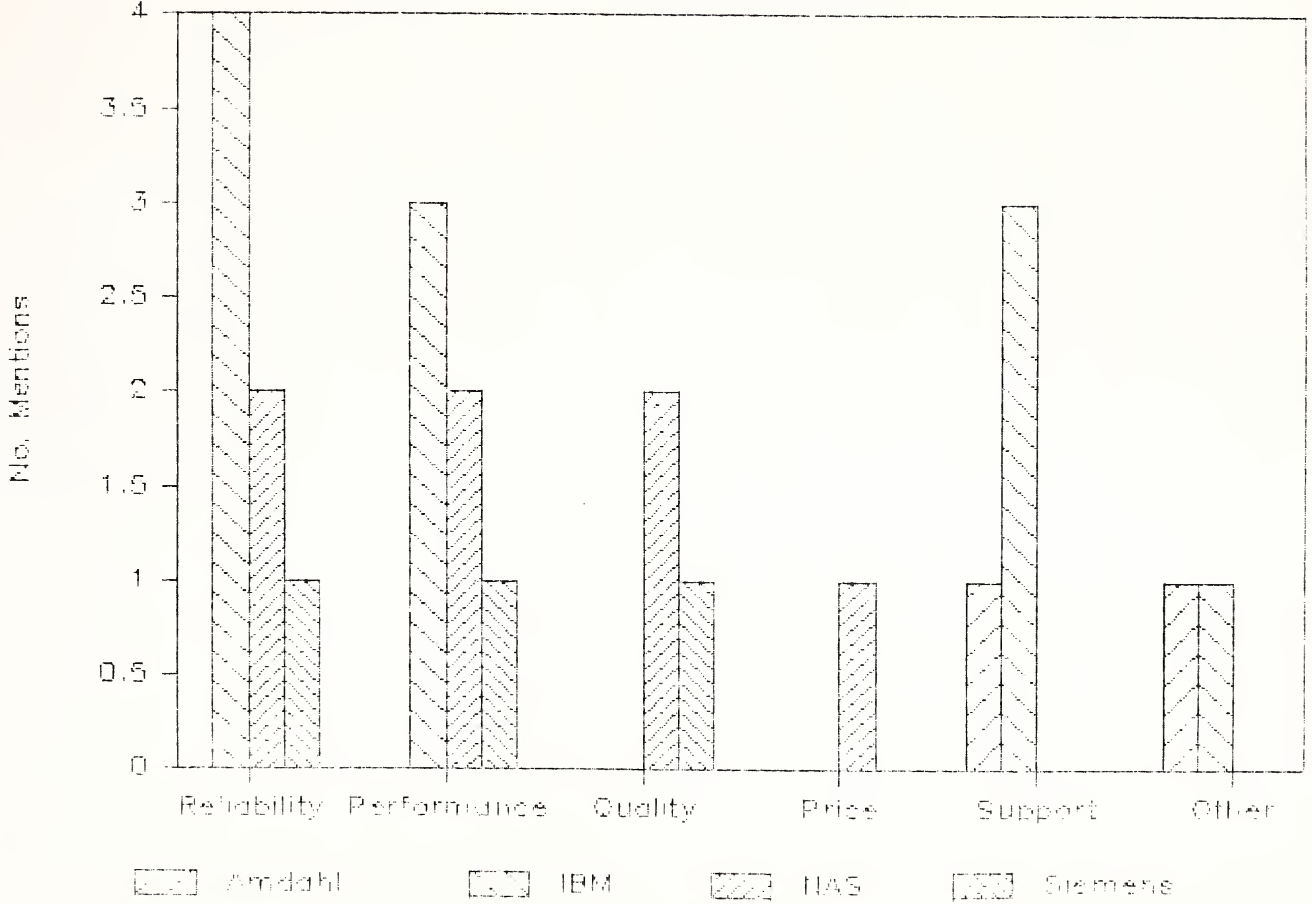
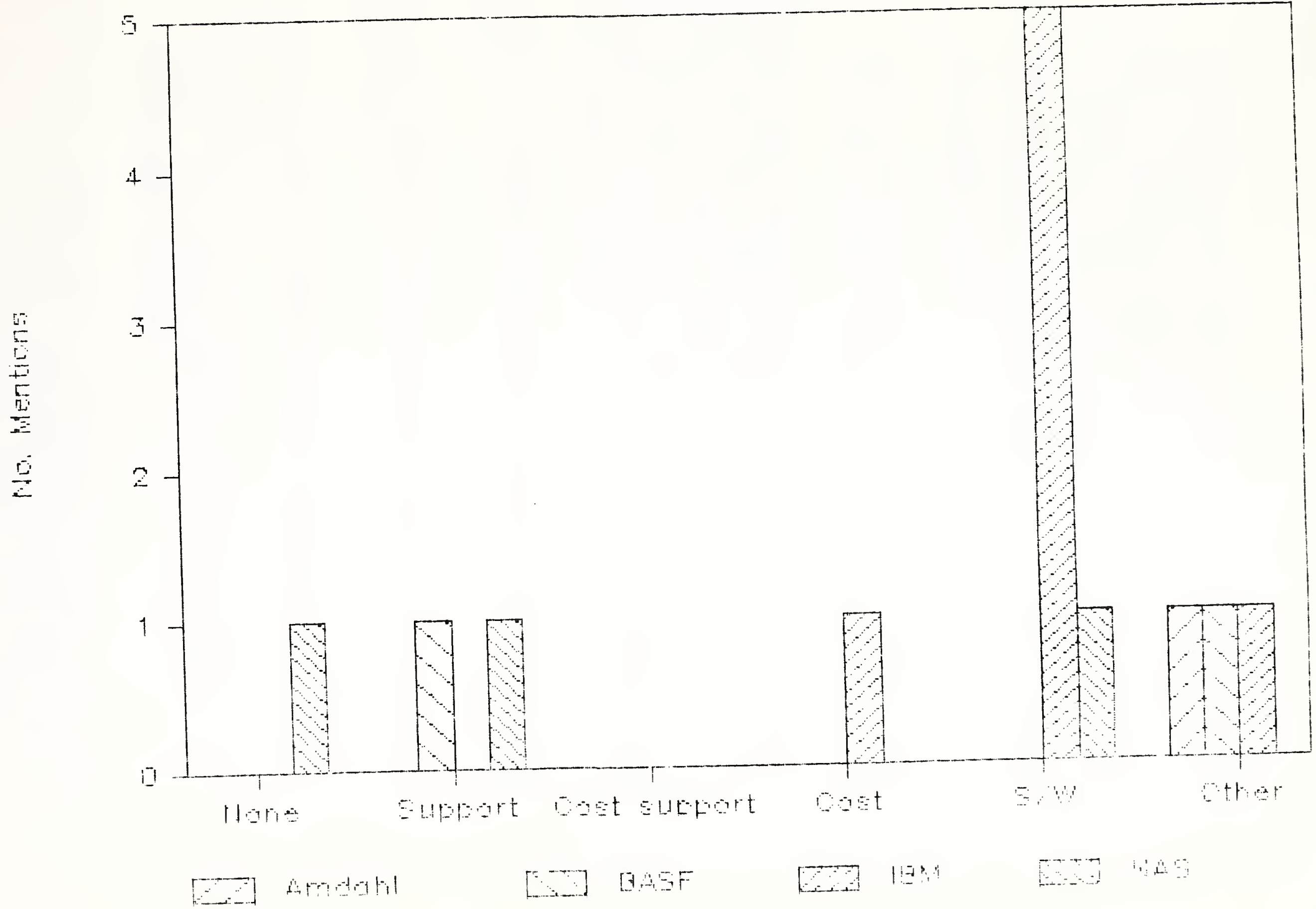


EXHIBIT III—8

Product Irritants



  - However one disaffected NAS user mentioned that he had not seen an NAS executive for a long time, despite the fact that his company offices were situated on the floor above those belonging to NAS.

  - Other NAS users stated that a major irritant with NAS equipment was that they were not directly upgradeable (from a 8000 - 9000).

  - Similarly users were also anxious about operating systems' software compatibility with IBM's MVSX.A.

- Siemens' users were pleased with the perceived hardware superiority over IBM equipment, complete compatibility between the Siemens' BS3000 operating system and IBM MVS, the possibility of upgrades without changing the hardware, good support and attractive economic and commercial considerations.

- However maintenance was not considered to be as good as IBM.

- IBM users mentioned the following factors as pleasing attributes:

  - high level of support, rapid intervention when needed,
  - assistance in DP planning, extensive range of products, good maintenance, reliability, and overall good communications.

- Amdahl was praised for its flexibility, good client rapport, aiming to please, compatibility with IBM, good delivery, fast implementation, support and attractive commercial terms. Users however felt that they may have problems in the future in respect of X.A. compatibility.

- Hardware maintenance was not seen to be as good as IBM.

- Although the sole BASF user stated that the product was good, the company suffered from a shortage of good technical staff, lack of technical knowledge, little CPU experience, unsatisfactory maintenance, lack of communication, and the level of service was inferior to NAS.

- Sources of irritations from vendors include maintenance on hardware and software, (all vendors), upgradeability and compatibility, and inflexibility.

- IBM was particularly critized for its bureaucracy, imperialistic attitude, contractual inflexibility, high pricing, unethical pressures and knocking the competition.

- With respect to product irritants, IBM product performance is generally seen as mediocre compared to competitive products. The major criticism related to the complexity of the systems, weakness and complexity of software operation.

- NAS irritants include lack of dialogue and visibility, lack of intermediate products in the product range and prices which were higher than Siemens and Amdahl.

- However no mention was made for product irritants which is significant.

- Siemens is only criticised for hardward maintenance.

- The major problem to be resolved facing PC users in the future is the issue relating to operating software capability. Anxiety has been expressed by compatible users.

3. BUSINESS RELATIONSHIPS

- Exhibit III-9 shows that the average number of months taken for a business relationship to exist prior to an order being placed is 8.9 months. Internally, within the user's organisation, it takes an average of 6.9 months to make a decision, after the need has been identified.

B. PURCHASING TRENDS AND INFLUENCES

1. TANGIBLE PRODUCT REQUIREMENTS

- Exhibits III-10 through III-13 illustrate the degree of importance to users of procurement parameters as well as the perception of how well the vendors perform against the standard or target.
  - In order of average important the parameters are:

. Reliability	(9.6)
. Compatibility	(9.1)
. Availability	(8.9)
. Quality	(8.6)
. Performance	(8.1)
. Price/Performance	(8.1)
. Upgradeability	(7.8)
. Price	(7.7)
. Environment	(5.6)
. Floor Space	(4.7)
. Consulting Assistance	(4.0).

- NAS receives higher ratings than
  - IBM in:

EXHIBIT III-9

AVERAGE LENGTH OF TIME

- Taken for a business relationship to exist prior to an order being placed:

  8.9 months

- It takes to make a decision after the need has been identified:

  6.9 months

EXHIBIT III—10

Tangible Product Needs

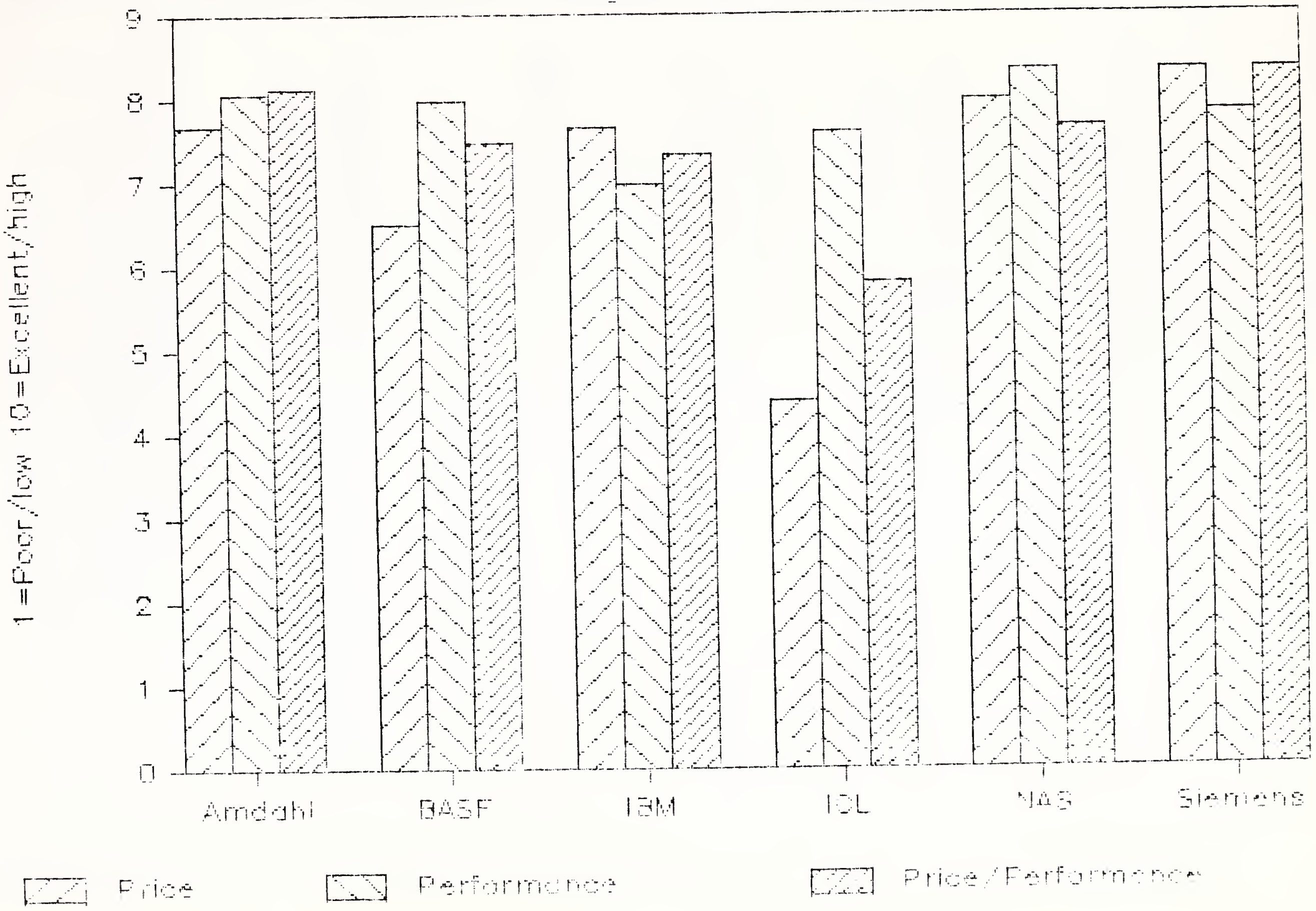


EXHIBIT III—11

Tangible Product Requirements (2)

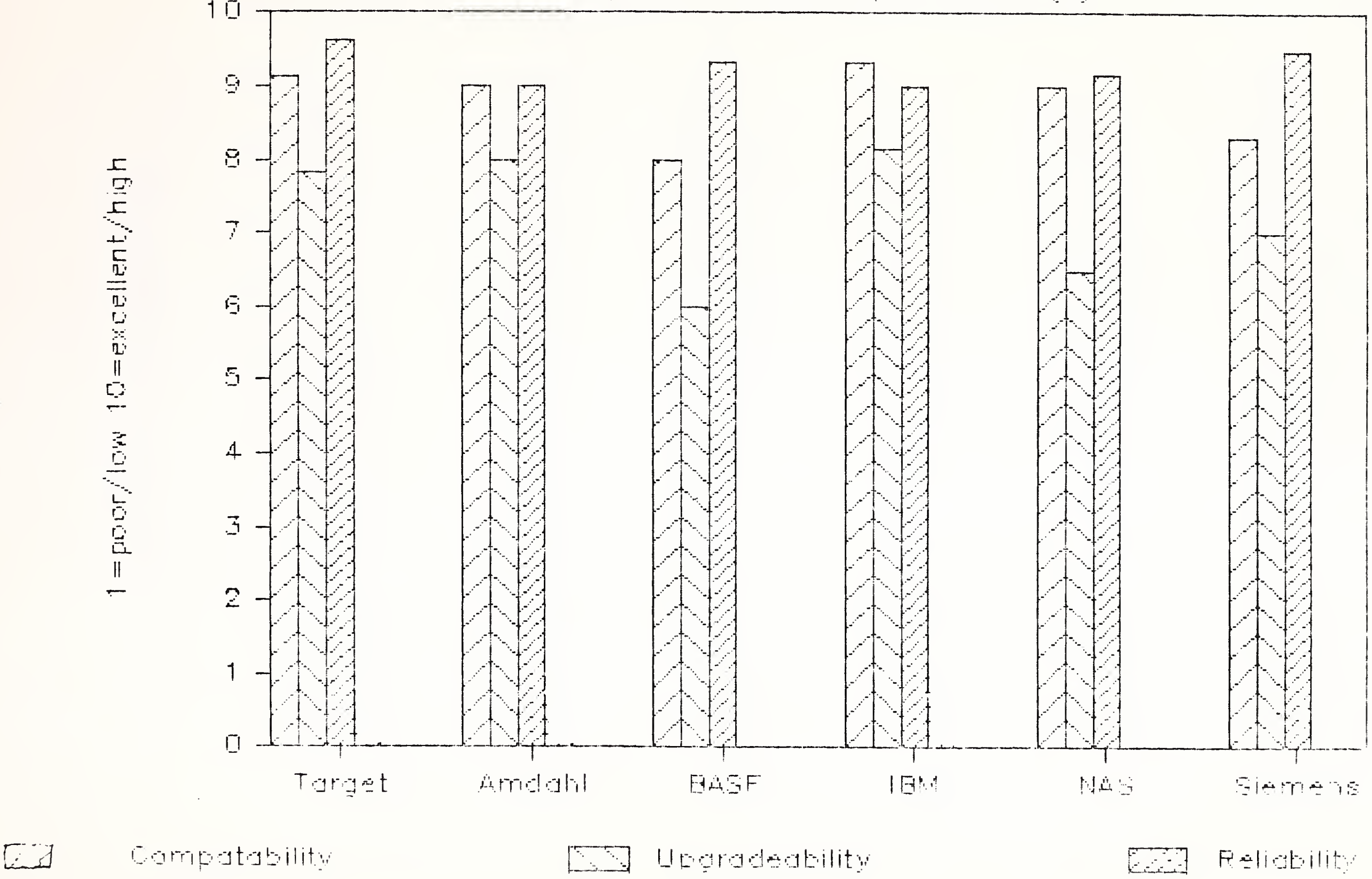


EXHIBIT III—12

Tangible Product Requirements (3)

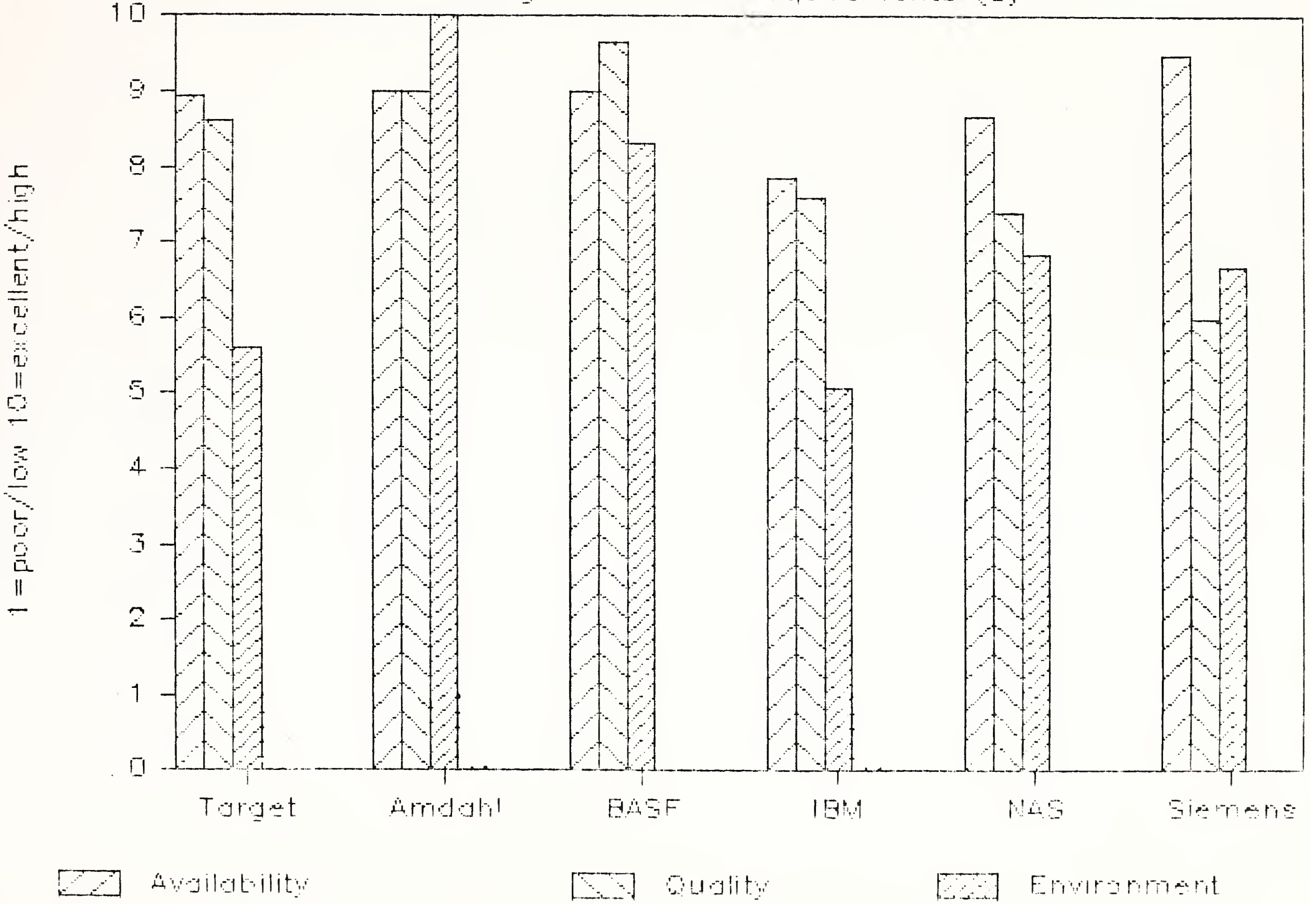
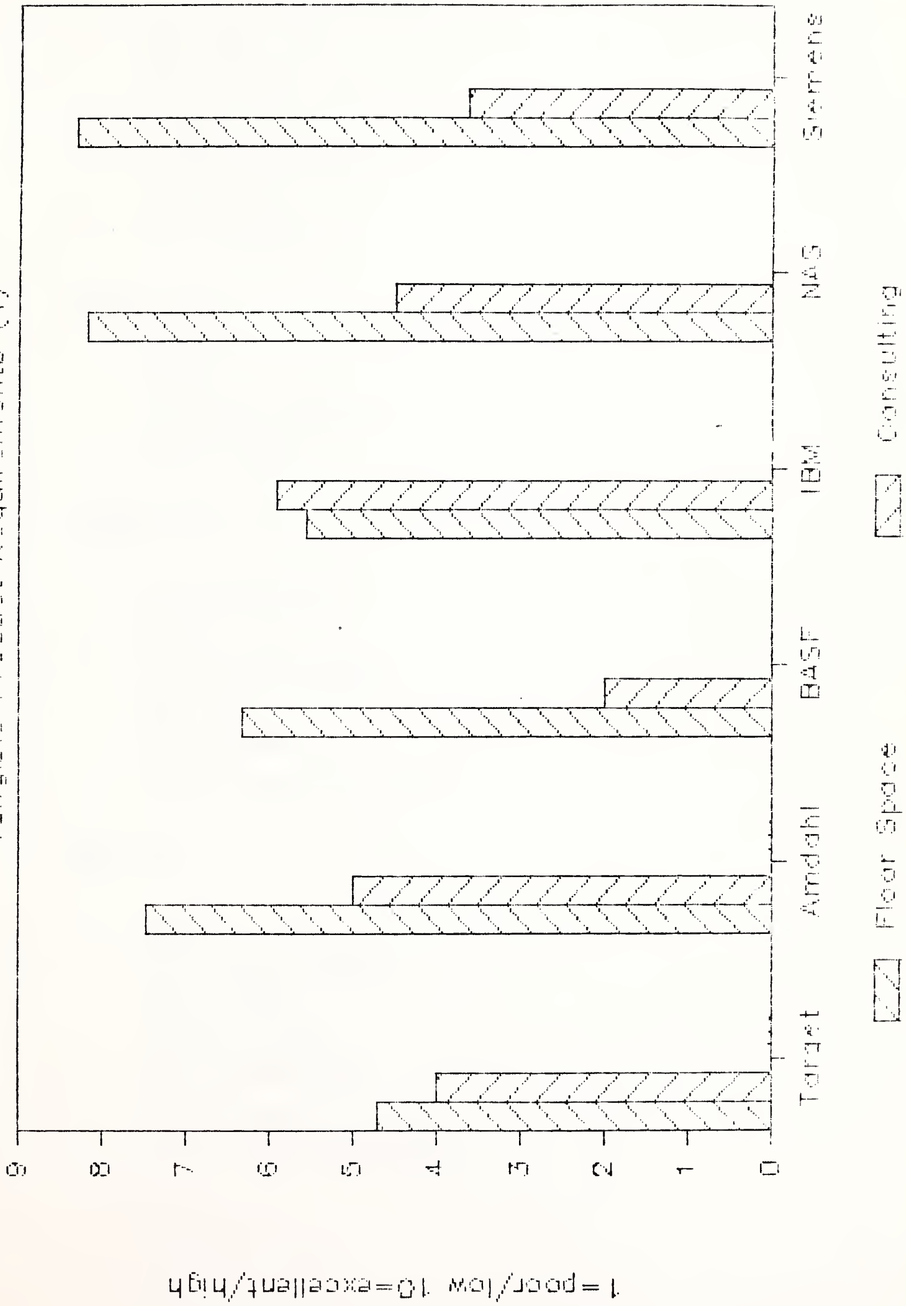


EXHIBIT III—13

Tangible Product Requirements (4)



  - Availability
  - Floor Space
  - Price
  - Price/Performance
  - Performance
  - Environment.

- Amdahl in:

  - Price
  - Price/Performance
  - Floor Space.

- Siemens in:

  - Compatibility
  - Price
  - Price/Performance
  - Quality
  - Environment
  - Consulting Assistance.

- BASF in:

  - Price
  - Price/Performance
  - Performance
  - Compatibility
  - Upgradeability
  - Floor Space
  - Consulting Assistance.

2. TANGIBLE SUPPORT REQUIREMENTS

- Exhibits III-14 indicates the importance of support requirements to users and their perception of how vendors perform against these targets.

    - In order of importance the factors are:

        - Hardware support (9.7)
        - Software maintenance (9.3)
        - System consultancy (6.9).

- With respect to hardware support NAS is seen to be better than BASF but not as good as IBM and Amdahl. It has equal rating with Siemens.

- It is judged second to IBM regarding software maintenance ahead of its competitors, but third behind Amdahl and IBM regarding system consultancy.

3. TANGIBLE COMPANY REQUIREMENTS

- Exhibits III-15 through III-17 show the relative importance to users of certain company factors and their opinions of how vendors perform against these targets.

    - In order of performance the company factors are:

        - Service organisation (9.3)
        - Post sales effort (8.5)
        - Stability (8.3)
        - Range of products (7.5)
        - Size of company (7.3)
        - Financial condition (7.0)
        - Pre sales effort (7.0)
        - Location of company (6.1).

EXHIBIT III—14

Tangible Support Requirements

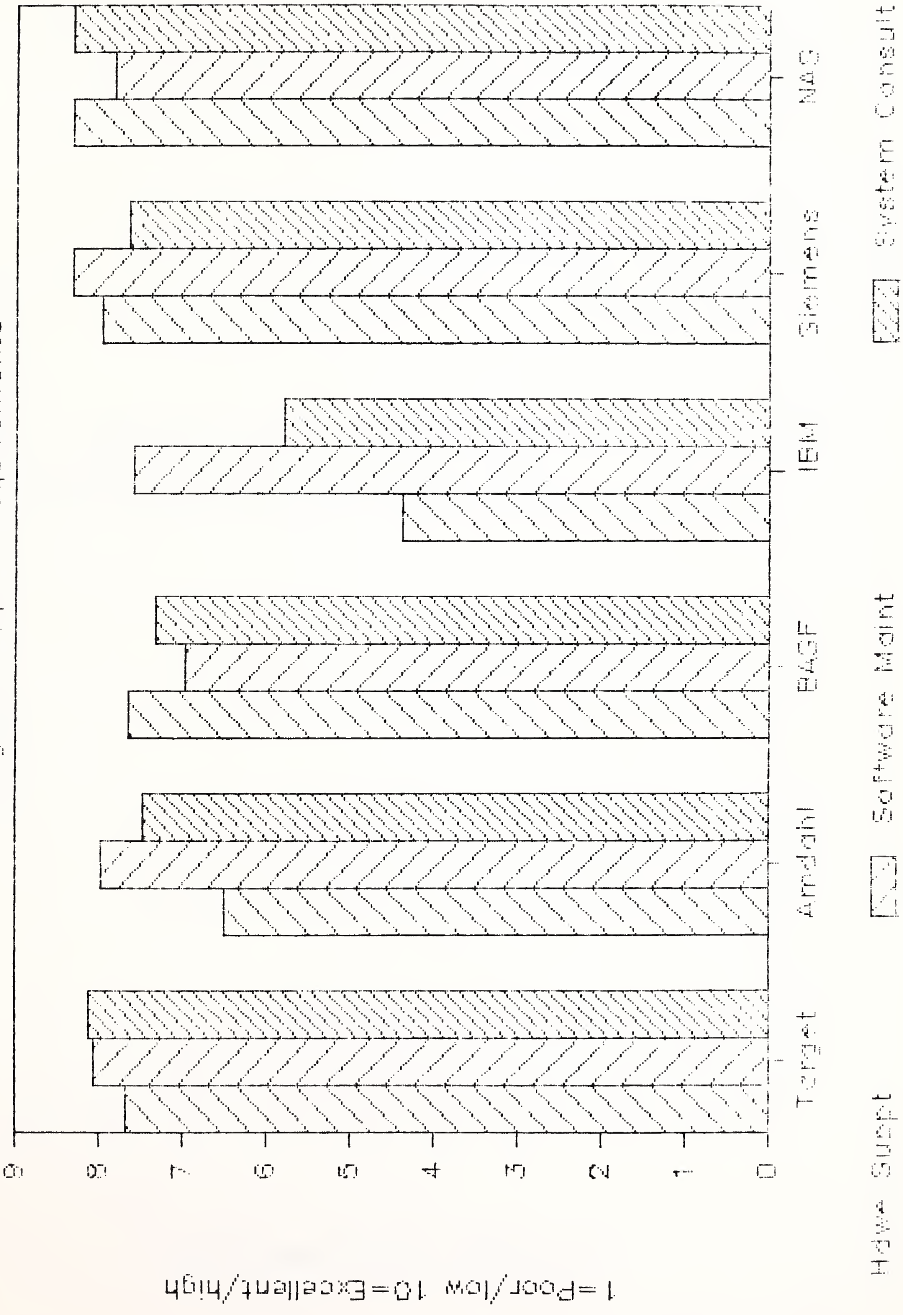


EXHIBIT III—15

Tangible Company Requirements

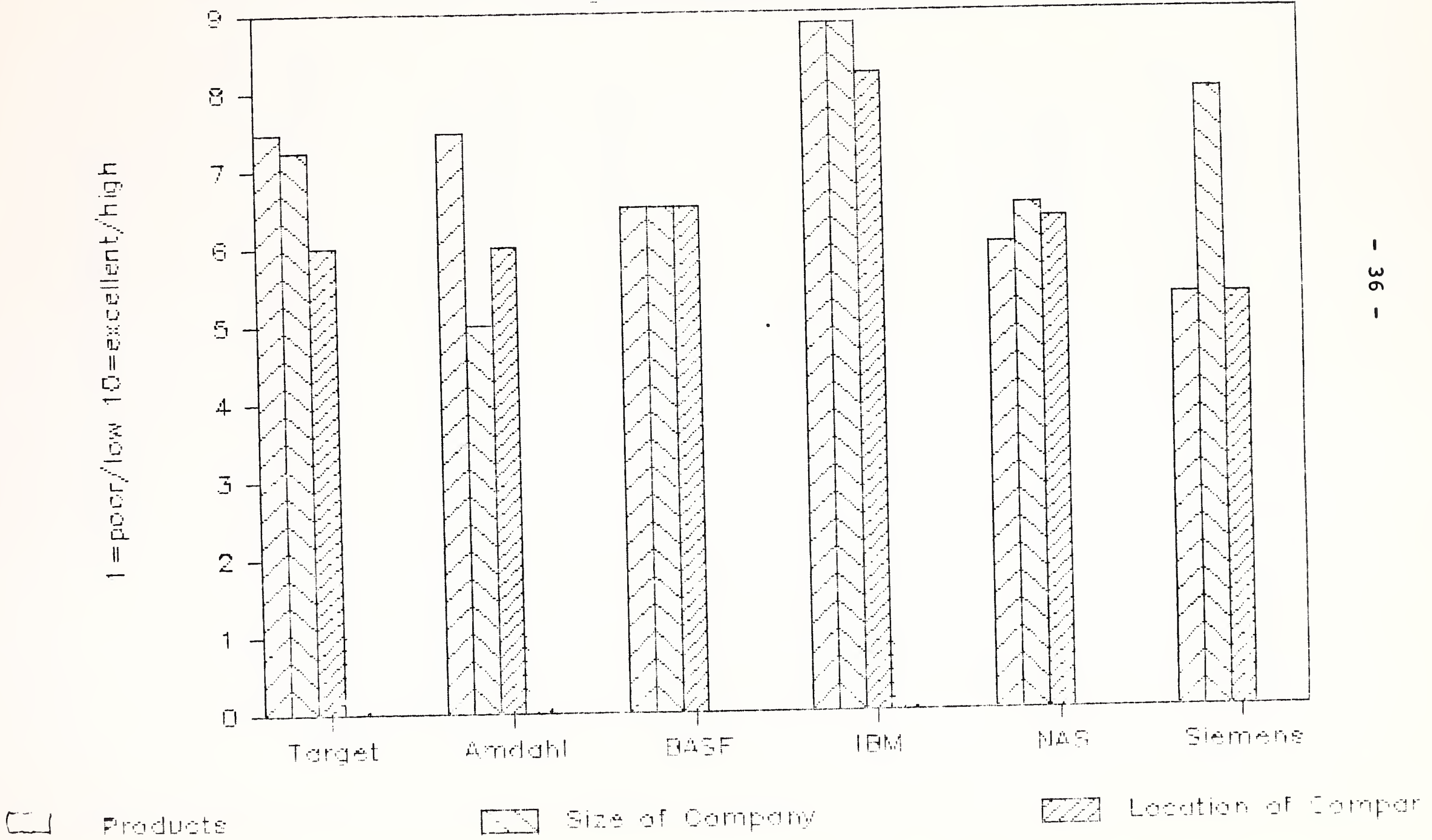


EXHIBIT III—16

Tangible Company Requirements (2)

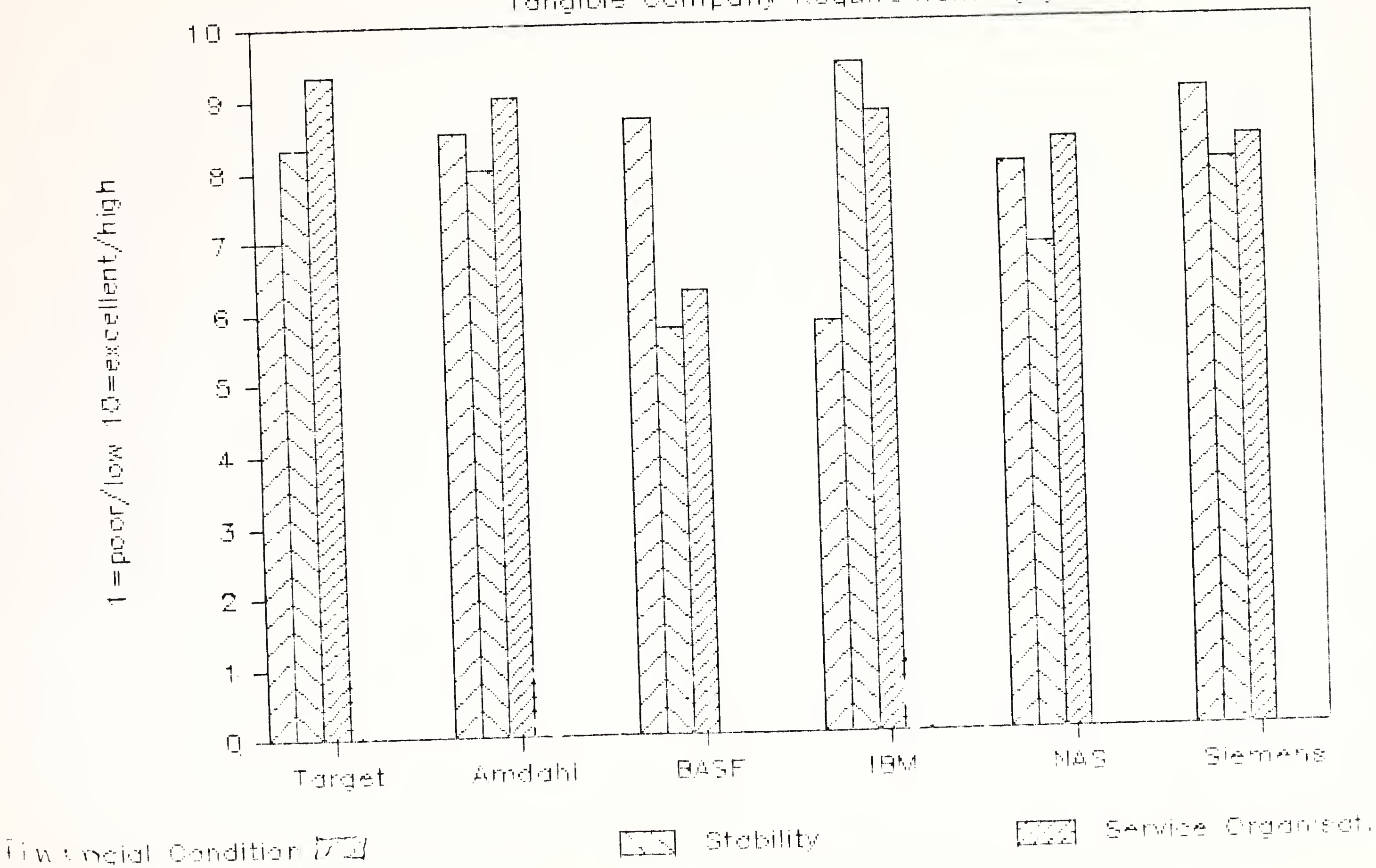
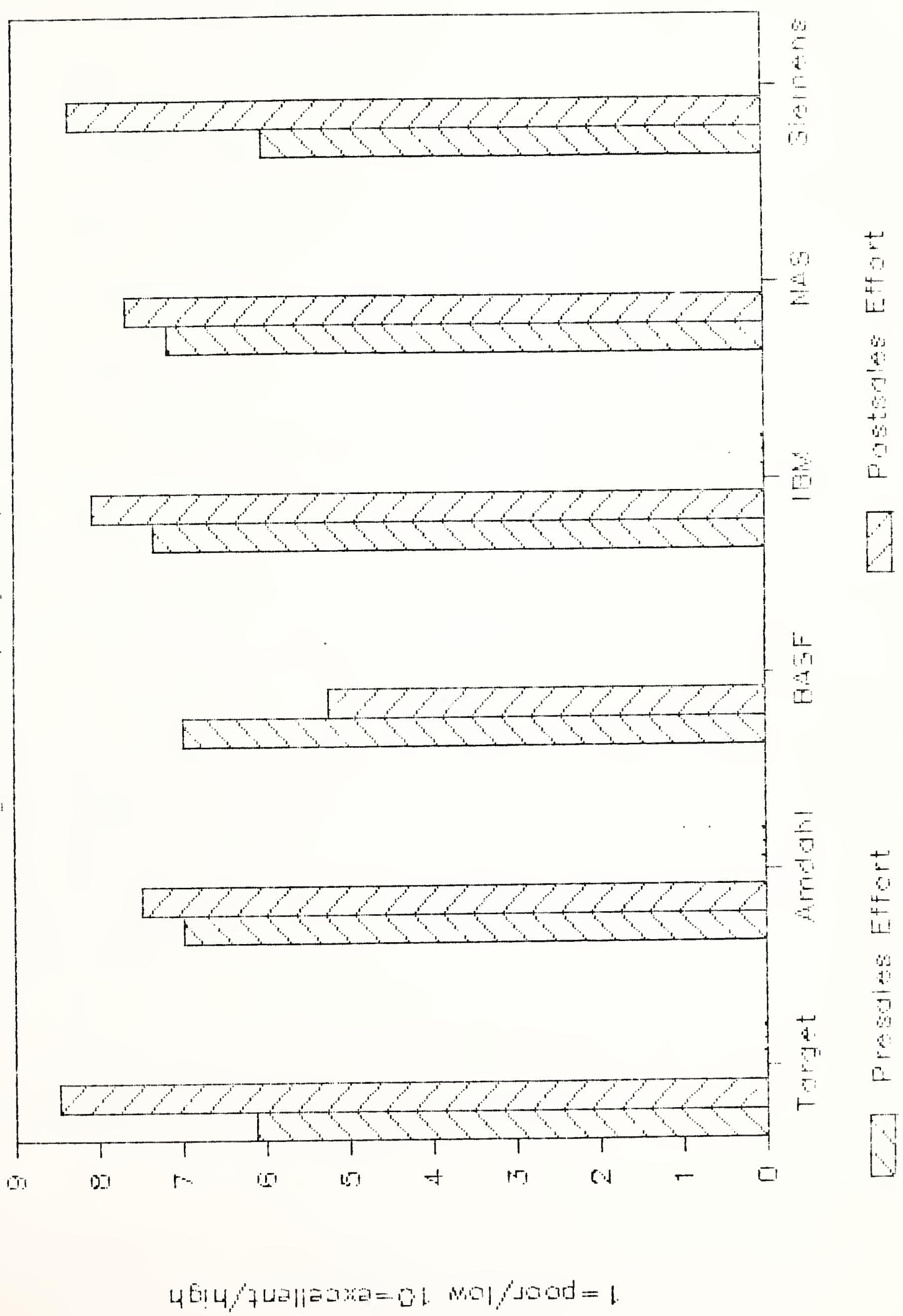


EXHIBIT III—17

Tangible Company Requirements (3)



- NAS is rated better than:
  - IBM in:
    - Post sales effort (marginally better).
  - Amdahl in:
    - Post and pre sales effort.
  - Siemens in:
    - Location of company range of products and pre-sales effort.
  - BASF in:
    - Stability, service organisations, and pre and post sales effort.
- NAS ranks third after Amdahl and IBM for their service organisation, but is regarded as being less stable than IBM, Amdahl and Siemens. It is superceded by all competitors regarding its financial condition. NAS holds a close second to IBM regarding pre sales effort but slips to third place, after IBM and Siemens regarding post sales activity.
- It is superceded by IBM and Amdahl regarding its range of products, holds fourth place in respect of its size, and third position concerning its location.

4. INTANGIBLE PRODUCT REQUIREMENTS

- The effects of equipment (noise, appearance, ease of use, etc) on employees and customers is judged as shown in Exhibit III-18.

- Again NAS is superceded by IBM and Amdahl in these respects but these factors are not given high priority by users.

5. INTANGIBLE COMPANY REQUIREMENTS

- Exhibits III-19 through III-22 show the relative importance of intangible company attributes and users' ratings of individual companies against these targets.

- In order of importance, these factors include:

- Systems personnel	(8.4)
- Least amount of bother	(8.3)
- Credibility	(7.9)
- Communications	(7.7)
- Salesman	(7.3)
- Image	(7.0)
- Reputation	(6.9)
- Executive reltionship	(6.9)
- Support personnel	(6.7)
- Visibility	(6.2)
- Advertising	(4.6)
- Entertainment	(3.9).

- NAS scores better than IBM in the following categories:

  - Executive relationships
  - Support personnel.

EXHIBIT III-18

Intangible Product Requirements

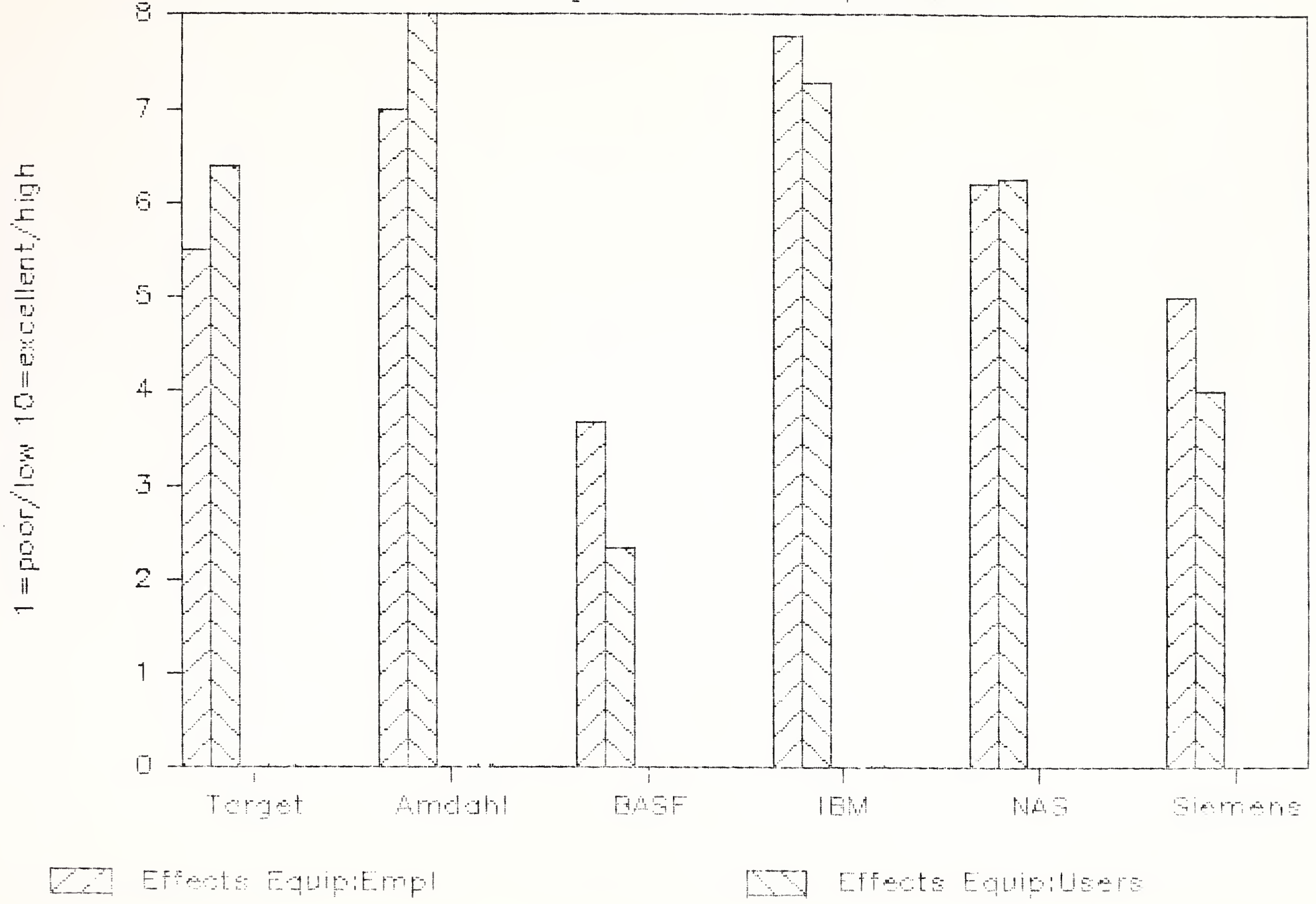


EXHIBIT III—19

InTangible Company Requirements

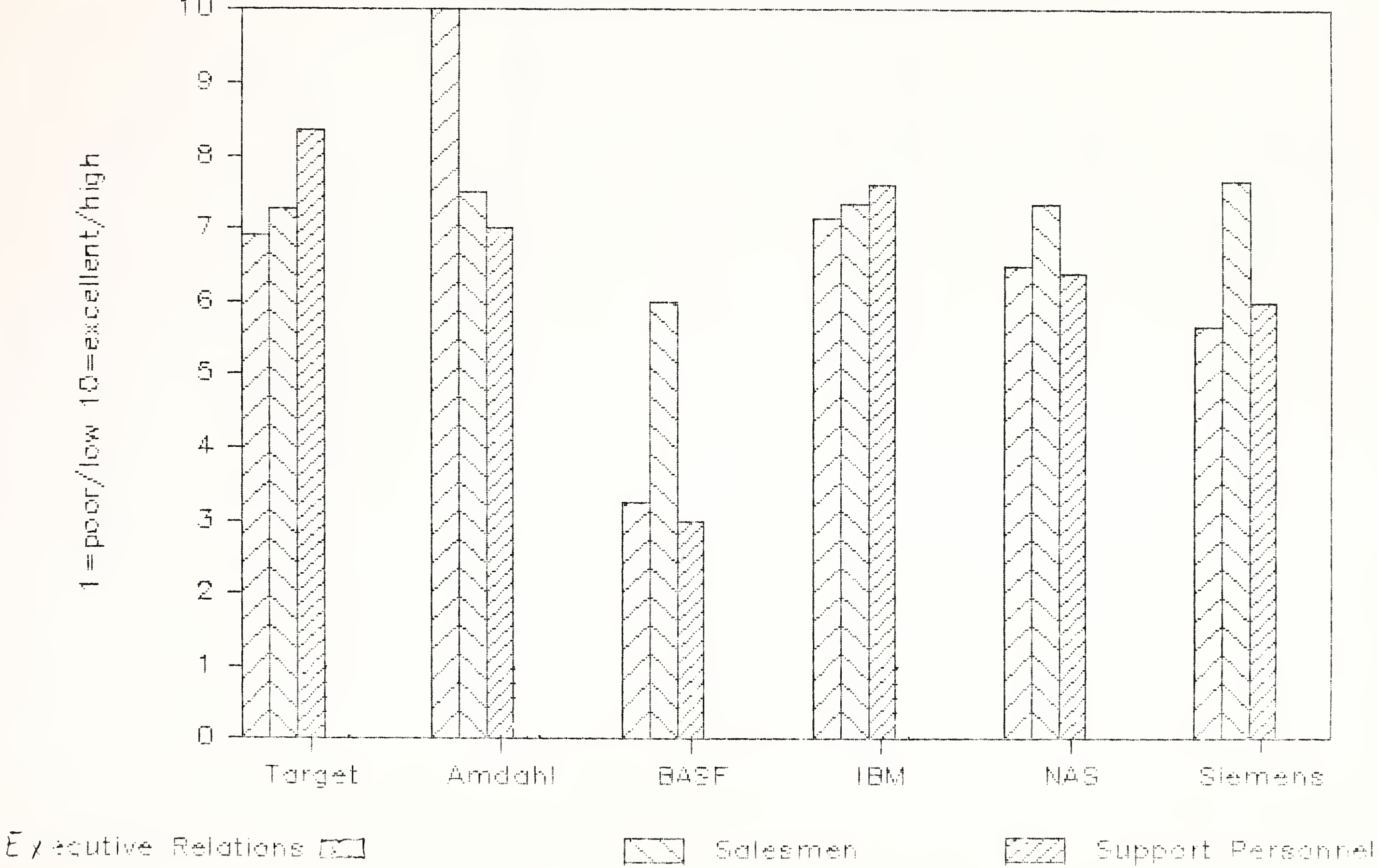


EXHIBIT III — 20

InTangible Company Requirements (2)

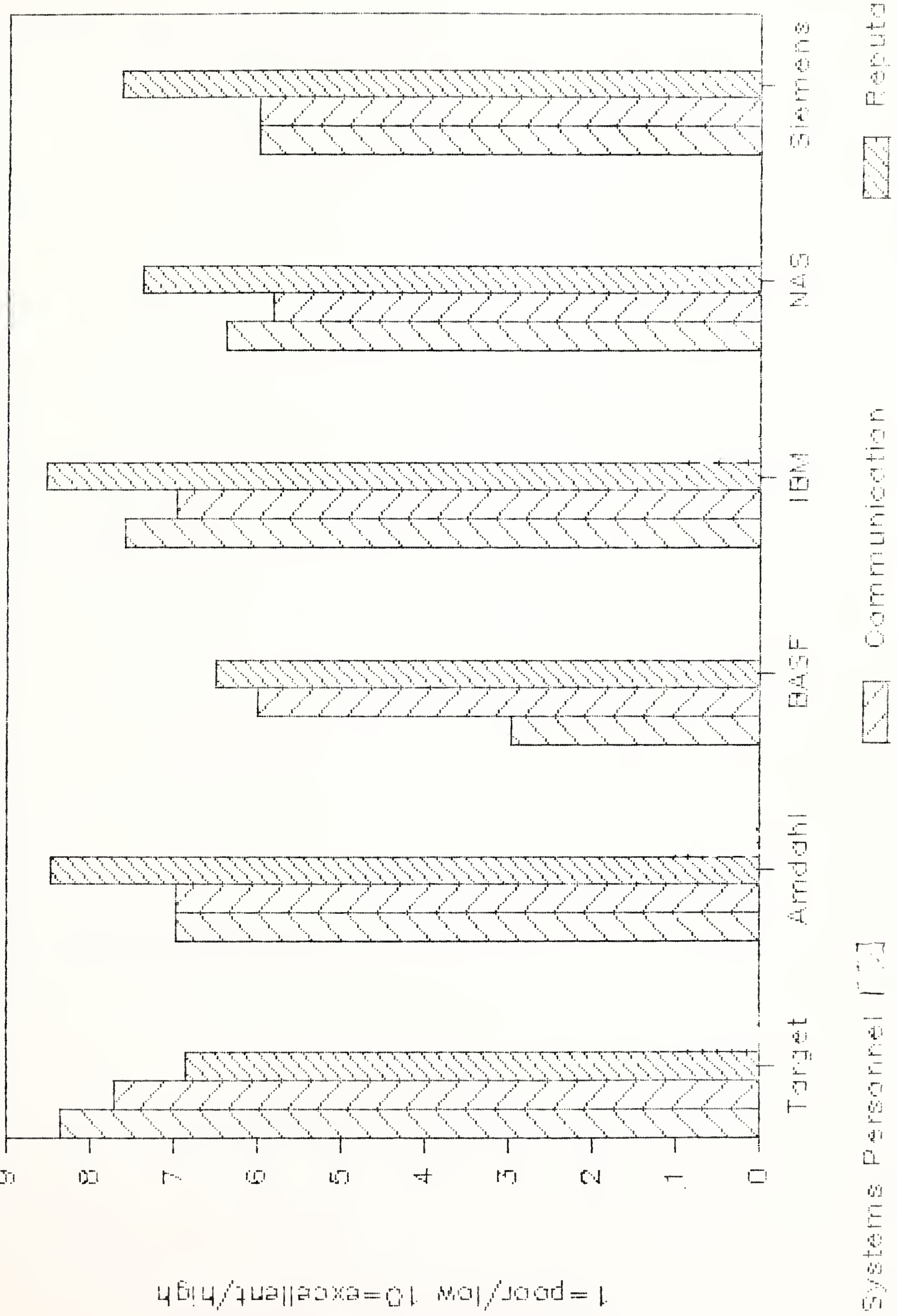


EXHIBIT III-21

InTangible Company Requirements (3)

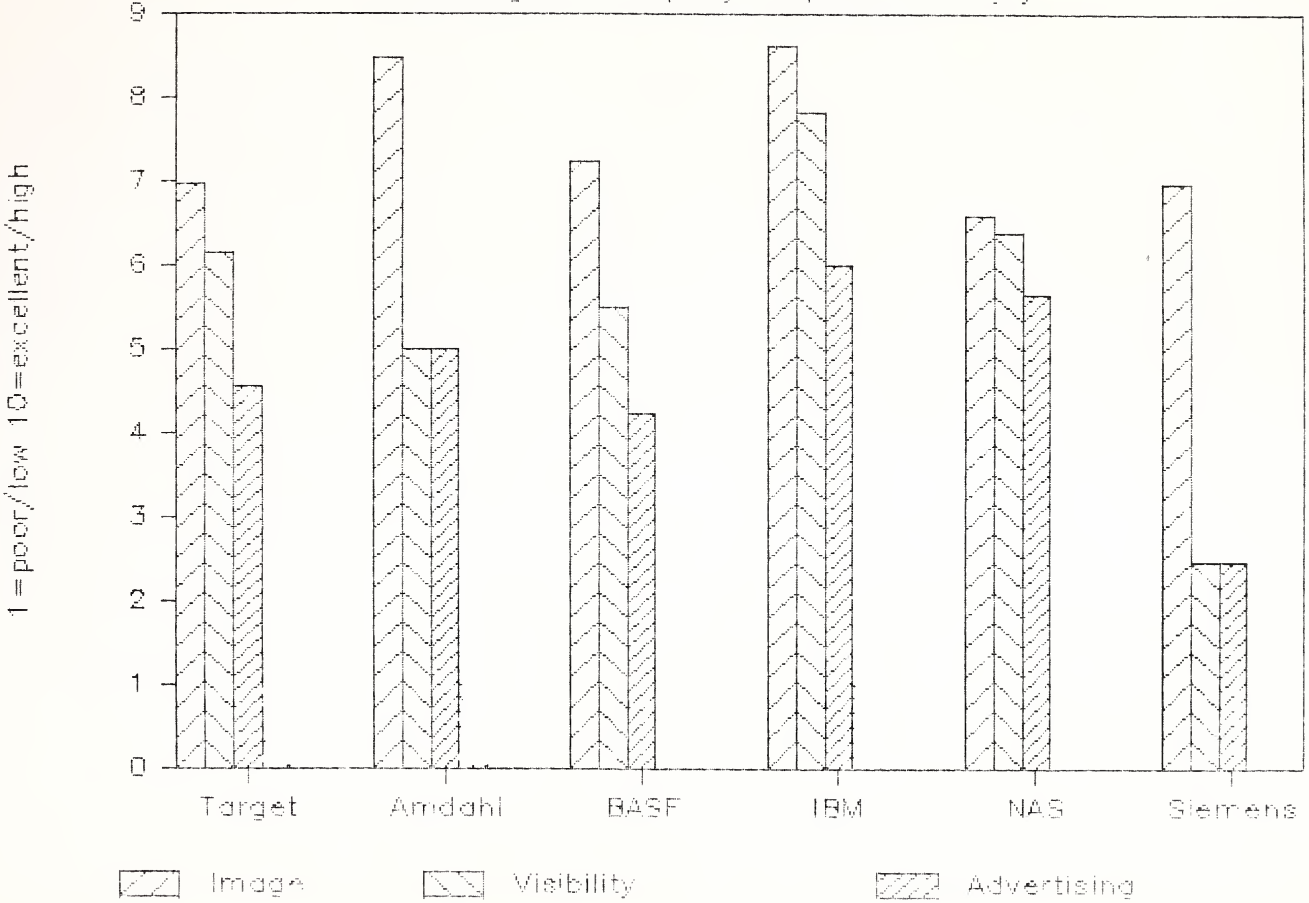
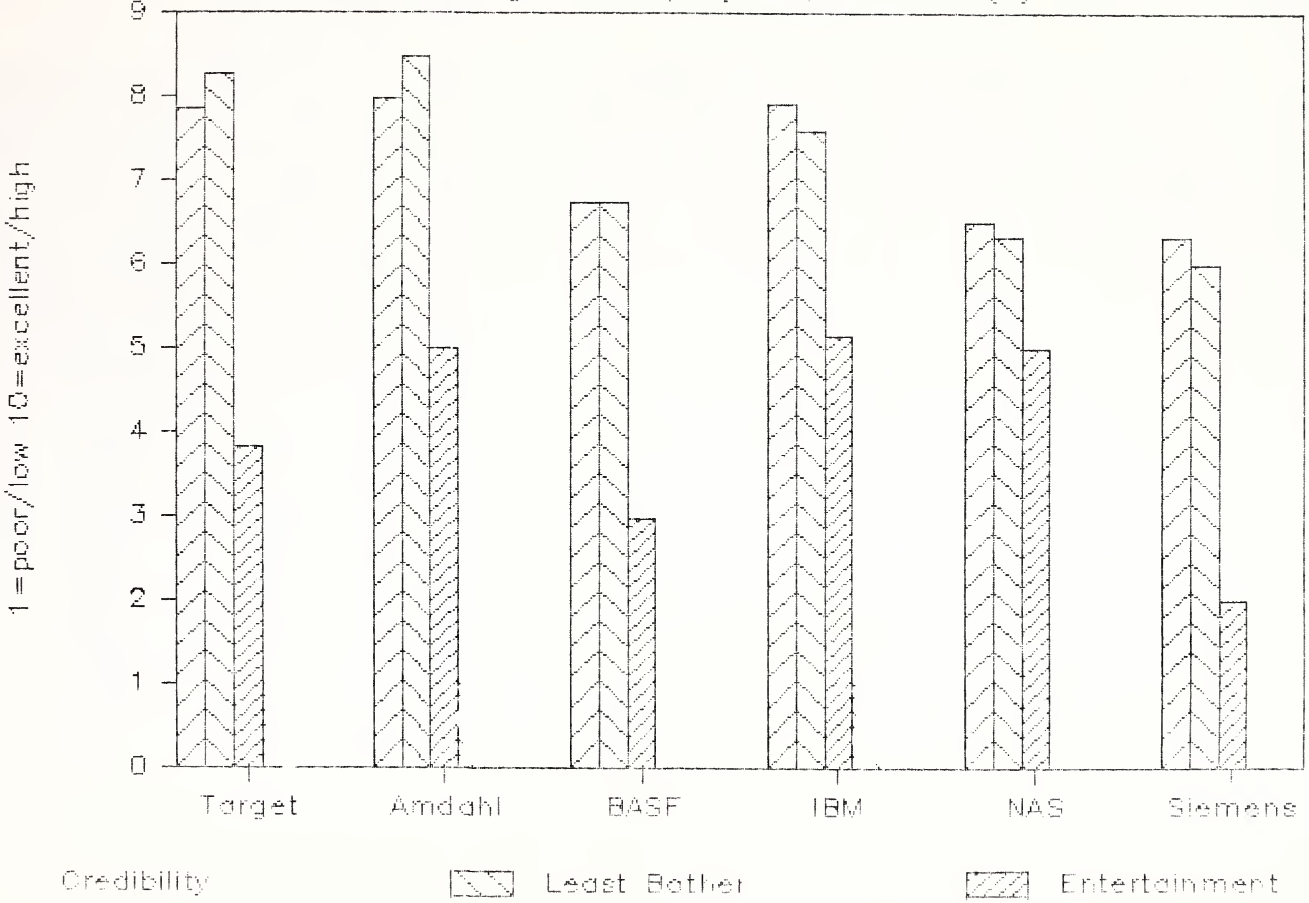


EXHIBIT III-22

InTangible Company Requirements (4)



- Amdahl outranks NAS in all categories with the exception of:
  - Advertising
  - Visibility.

- NAS outranks Siemens in the following categories:
  - Salesman relationship
  - Systems personnel
  - Credibility
  - Visibility and advertising.

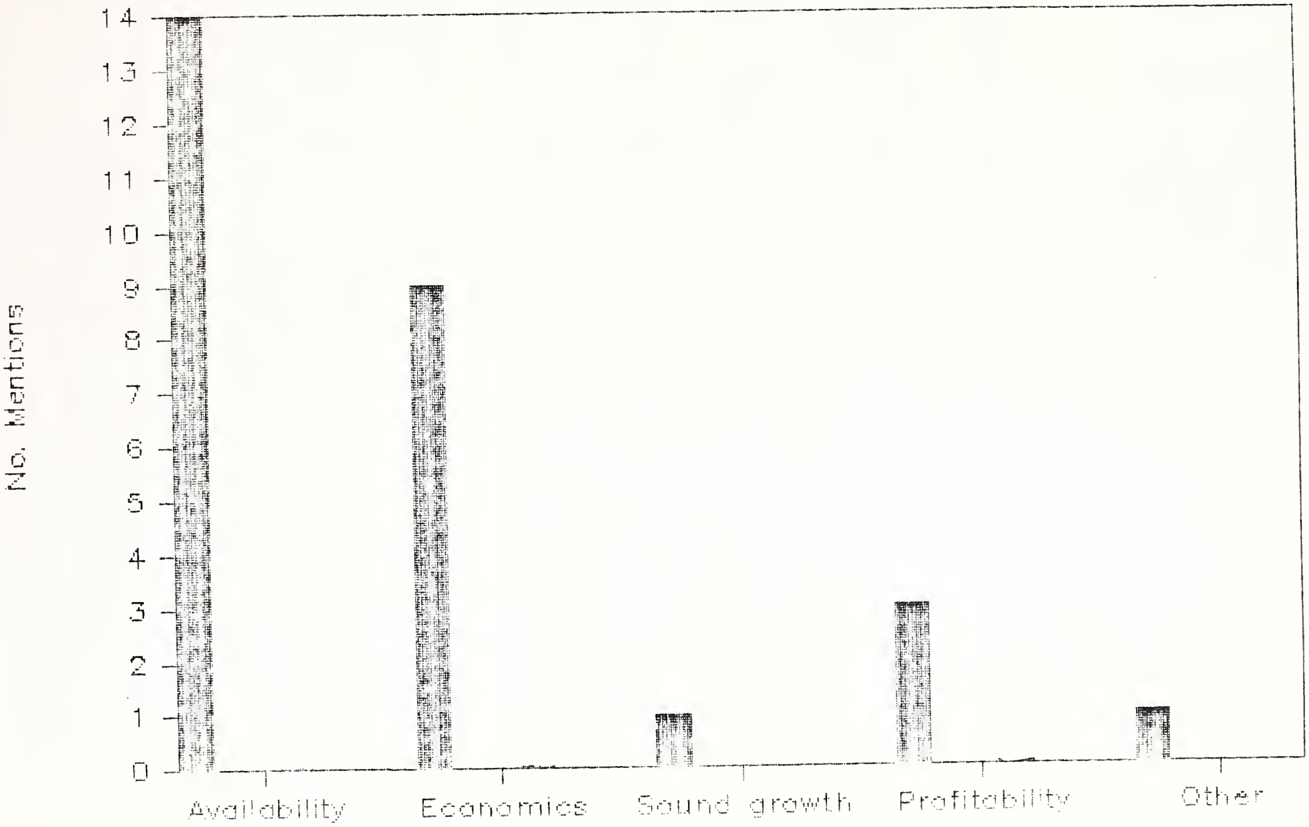
- NAS outranks BASF in the following categories:
  - Executive relationships
  - Support personnel
  - Systems personnel
  - Reputation
  - Visibility.

6. THE ROLE OF THE DATA PROCESSING BUYER/INFLUENCER

- Exhibit III-23 shows that system availability is the most important factor affecting the role of the data processing buyer/influencer, followed by economic factors and increased profitability. Other factors stated include:
  - reduced operating costs
  - protect and fully amortize product investment
  - development of coherent, cost justified of policy
  - increased productivity
  - decrease computing costs overall
  - faster response time
  - evolution towards real time processing.

EXHIBIT III—23

Role



- Users predict that in the future price will become a less important criterion in procurement choice as factors such as system relaibility, decreased downtime, performance, software compatibility, and support increase in importance.

7. EXTERNAL ISSUES AND FUTURE REQUIREMENTS

- Technology/state of the art are the major issues influencing the purchasing policy and procurement of companies. (Exhibit III-24).

- The majority of companies are concerned to protect their investment.

- Therefore the product life cycle, assurance of upgrades and compatibility are most important. Other factors mentioned included price/performance ratyio of the product and the continued support of locally implanted suppliers.

- Nationalism is not a key factor. Although DIEHLI (government body) issues directives advising that, where possible, products from indigenous suppliers are purchased, there is no pressure whatsoever in the private sector. Also Bull, the only French manufacturer also, does not produce competitive IBM compatible products.

- IBM presents an ambiguous face in France. Although it is still regarded as a non indigenous supplier, the company does manufacture products (CPU's) in Montpellier and as a provided of employment, politically speaking, gains the blessing of the French government.

- One large company explained that despite an internal preference for an IBM plug compatible CPU, an IBM 3083J

EXHIBIT III—24

External Issues

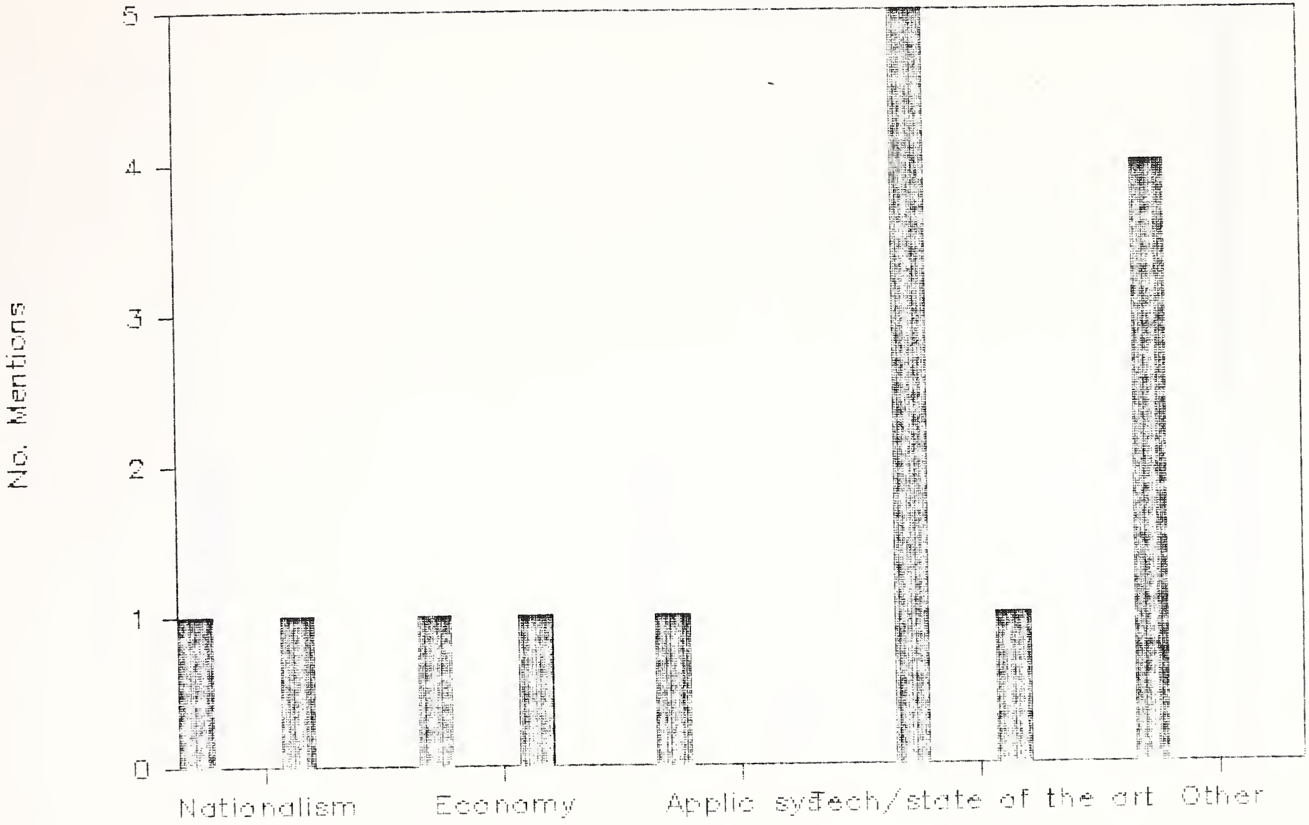
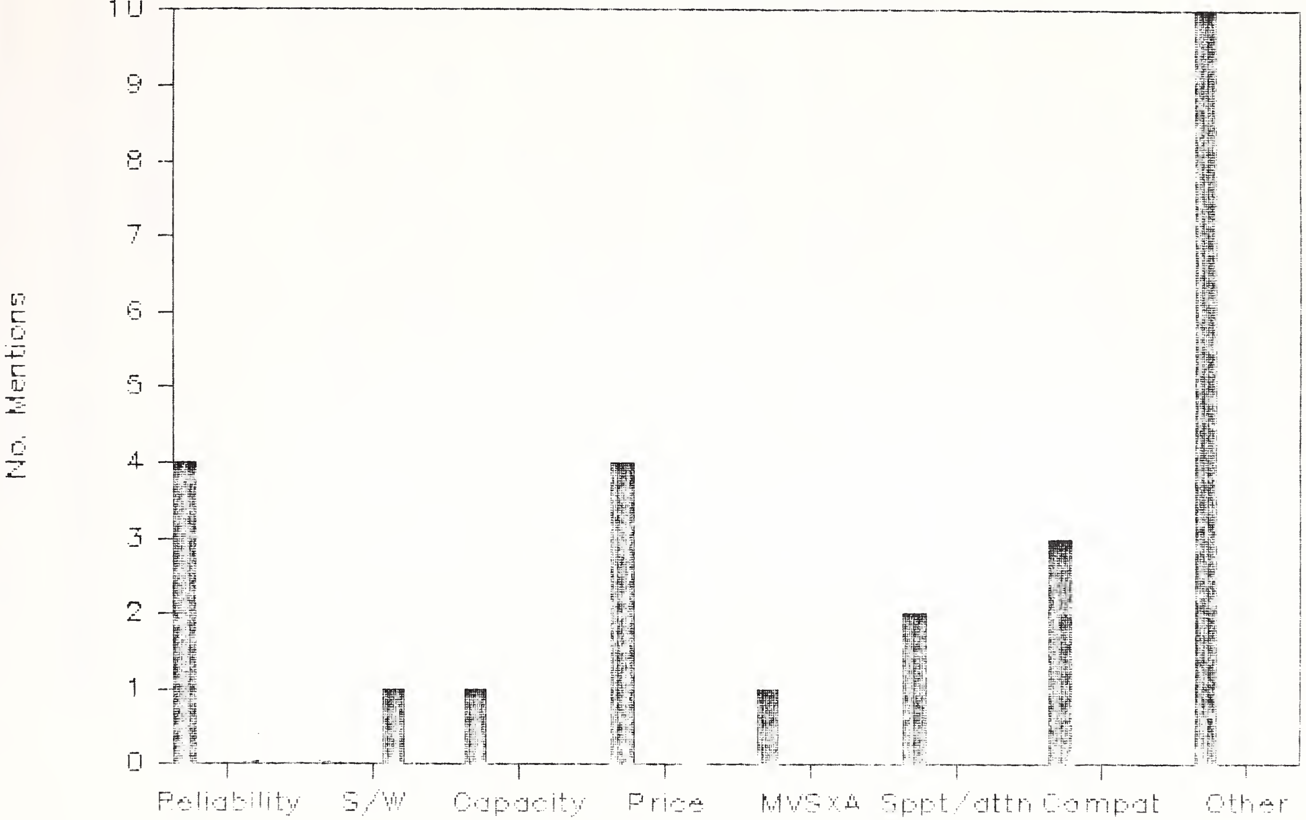


EXHIBIT III-25

Future Requirements



will be acquired this year, costing 40% more than a comparable product to "keep the peace" with IBM France. Previous acquisitions had been made through IBM US direct, thus antagonising IBM France.

- Other significant factors revealed in the survey showed that a fairly high percentage of users buy second hand IBM equipment or deal through leasing companies, thus having little involvement with IBM directly.

- Taken as a whole, respondents declared that if the final choice were between IBM and the Japanese, preference will, in most instances be given to IBM, i.e. failing an indigenous or European supplier, IBM would come next.

- One company, a bank stated that as part of a banking conglomerate, discounts from IBM were available.

- It should also be noted, that IBM has recently established a financing company in France, offering more attractive commercial possibilities to potential and existing users.

- Some IBM users who had previously examined the feasibility of PC suppliers maintained that rejection of the Hitachi/NAS option due to fears and anxieties regarding the upgradeability of the machine and capability of the company.

C. ACQUISITION PROCESS

1. PERSONNEL INVOLVED IN DATA PROCESSING PROCUREMENT

- Exhibits III-26 and III-27 describe a summary of the numbers and types of personnel involved in users' procurements.

EXHIBIT III—26

Purchashing Decision

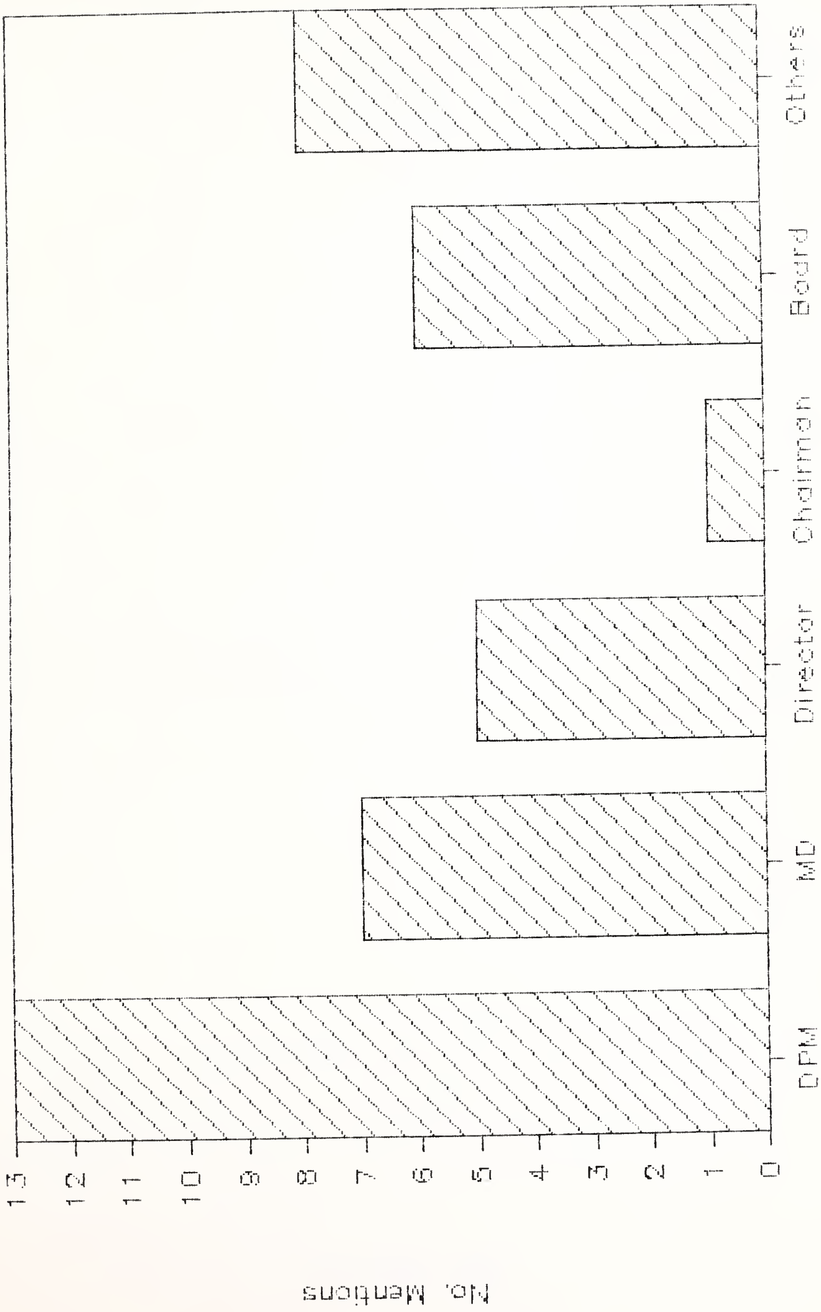
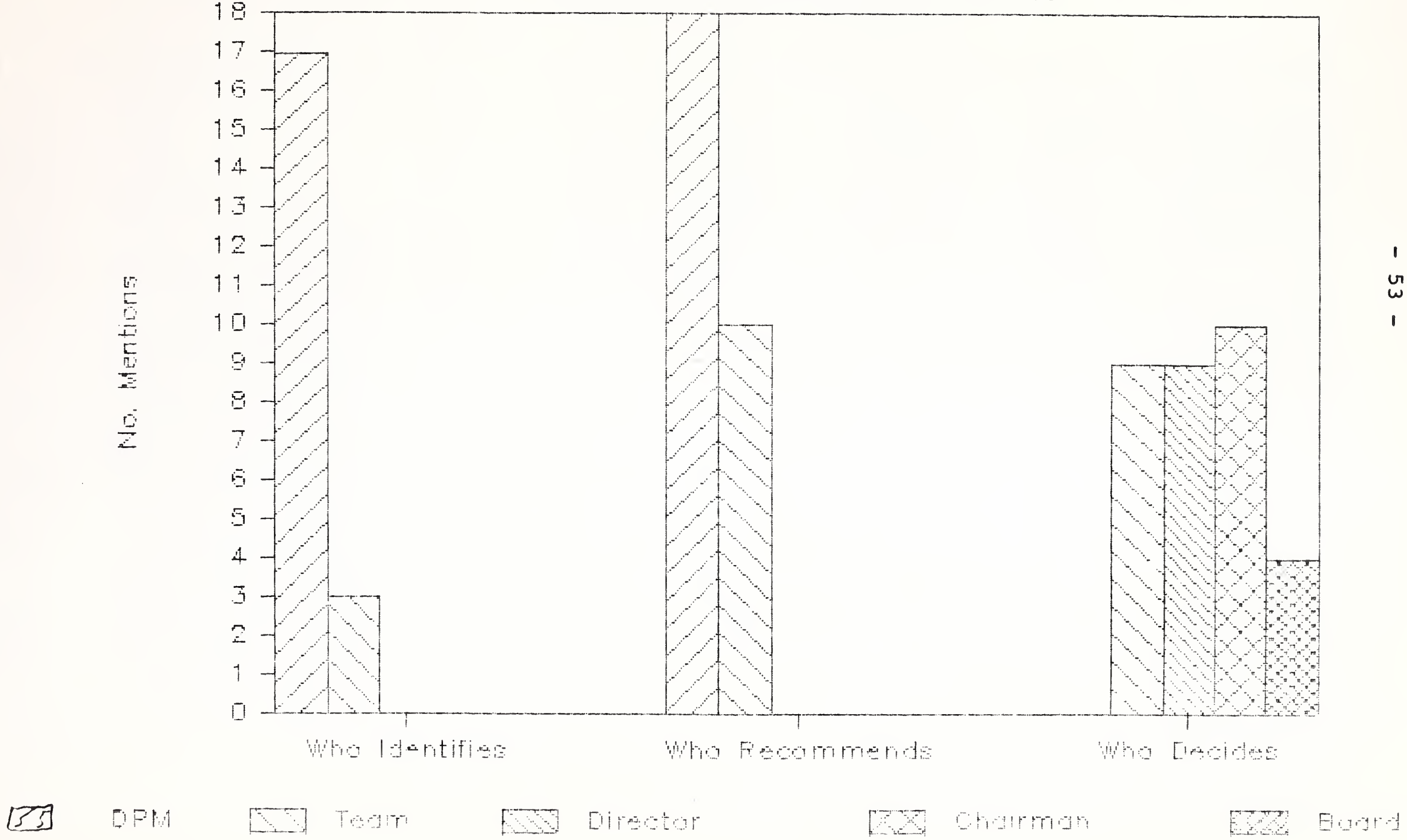


EXHIBIT III-27

Personnel in Procurement Process



  - On average, 5.8 people are involved in the purchase decision, and the duration of their involvement in the project may vary from 2 weeks (essentially at board/MD level) through to 6-8 months (DP mnagers and operations managers).

  - In terms of levels of personnel involved, the data processing manager is most often mentioned followed by the managing director.

- The identification of the need for data processing products is generally initially recognised by the operations, production or DP manager. In most instances some degree of collaboration with other DP operational staff is made.

- In most instances, it is the DP or systems/production manager who recommends the solution to the need.

- Final deciders in the procurement process most frequently include the DP manager, the PDG, MD, President or board of directors.

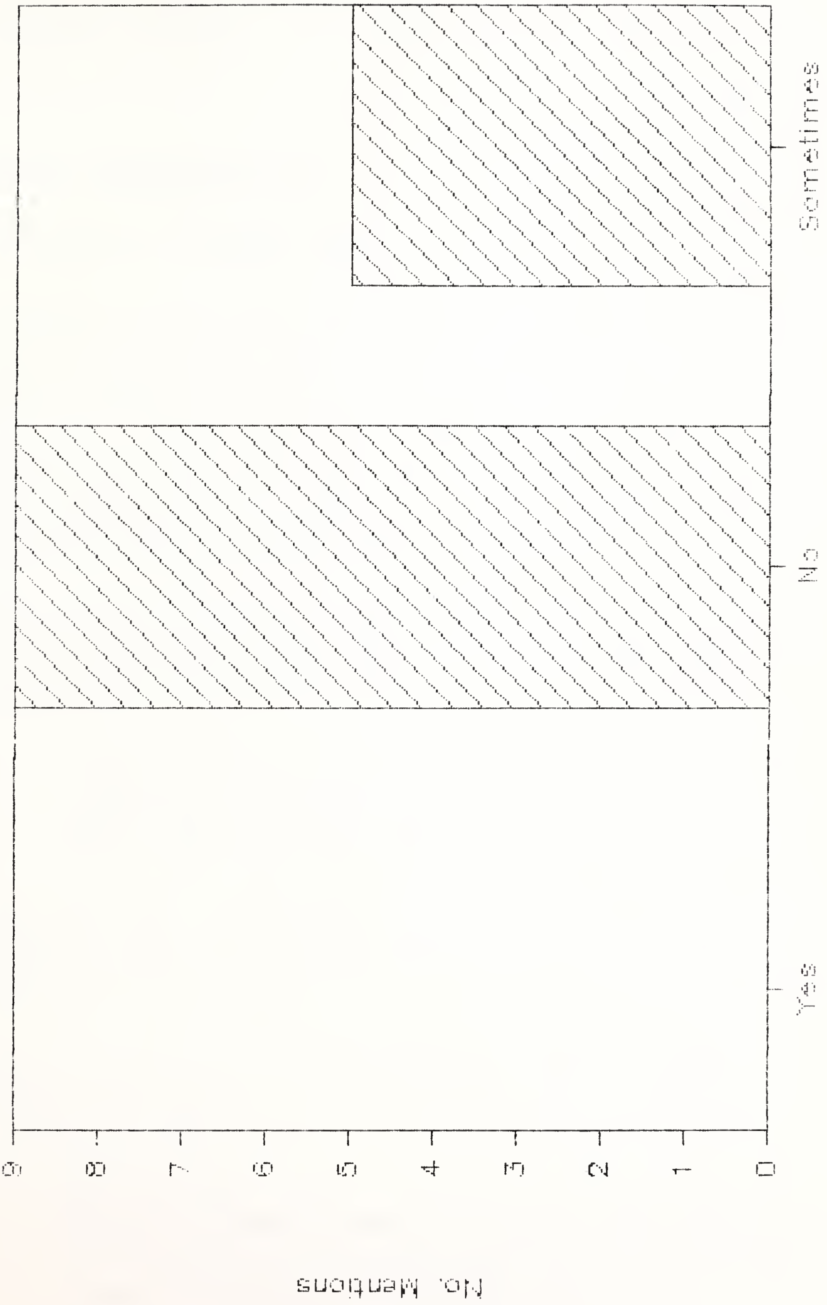
2. CONSULTANTS AND POLICIES

- The majority of companies do not use the services of consultants in determining their DP requirements, although some respondents say that they may be influenced by members of the same computing fraternity in their particular business sector e.g. banks ("prescripteurs externes"). Most respondents keep abreast of new product developments and offerings by gleaning the computer press and dialogue with vendor companies. (Exhibit III-28).

- Eight respondent companies stated that procurement policies were determined and directed from top management

EXHIBIT III — 28

Use of Consultants



level. In most instances these were IBM user companies. (Exhibit III-29).

D. MARKET CHARACTERISTICS

1. PROPENSITY TO CHANGE VENDORS

- Exhibit III-30 shows that slightly more respondents are willing to change vendors than are not willing to change their existing vendors of large systems equipment.

- Exhibit 30 shows users willing to change their suppliers are influenced by a variety of factors, notably cheaper products with guaranteed compatibility.

- Cost factors alone are not sufficient to convince users to change suppliers, but must be combined with the following:

  - proven superior product performance and reliability
  - assurances regarding technical excellence, delivery, upgradeability, and compatibility.

- Some IBM users stated that they would only consider peripheral equipment only, as long as they were cheaper and just as reliable.

- Users who were unwilling to change suppliers (Exhibit 30A) were either:

  - multisourced
  - feared problems of compatibility and upgradeability
  - feared problems of company stability regarding the capability to guarantee product investment.
  - had already tried compatible suppliers and had resulted in a disastrous experience (conversion

EXHIBIT III-29

Procurement Policies

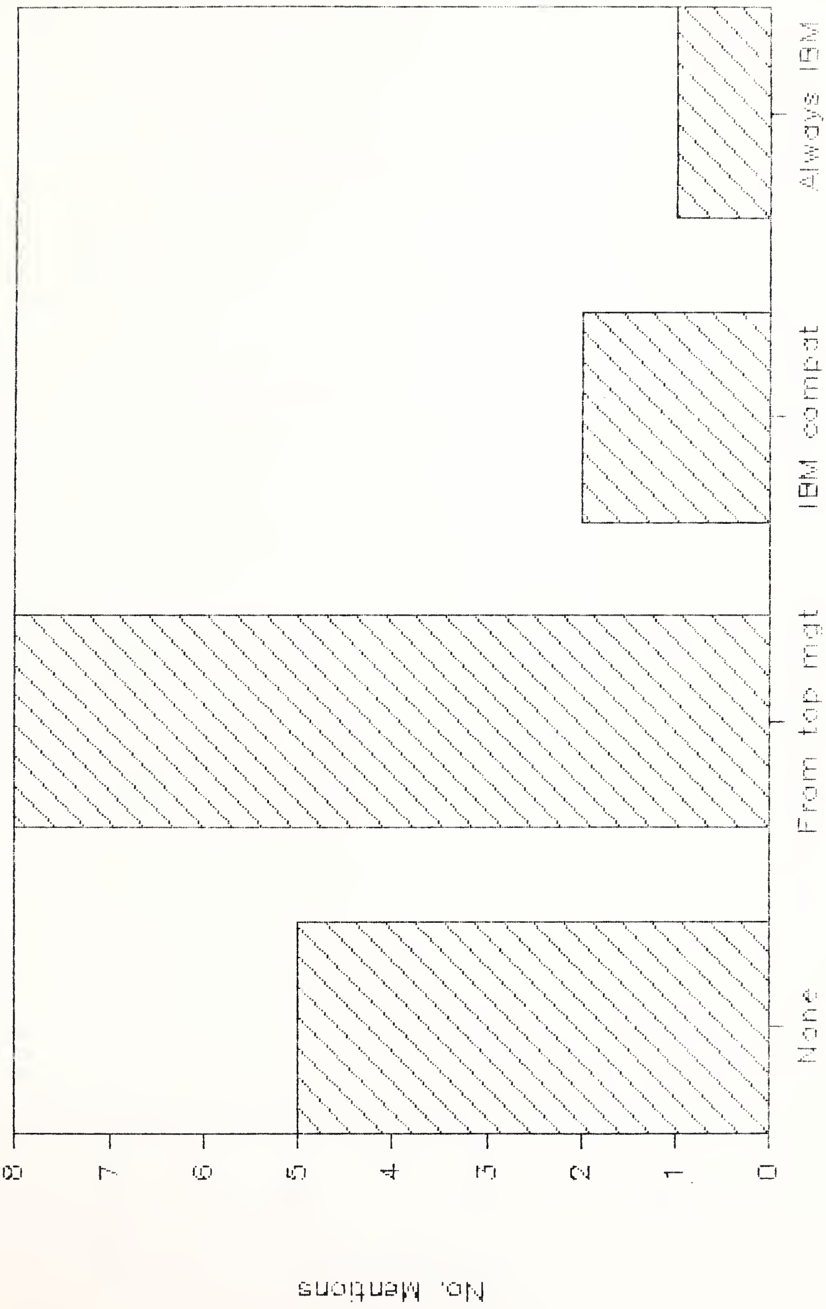


EXHIBIT III—10

Willing To Change Vendors

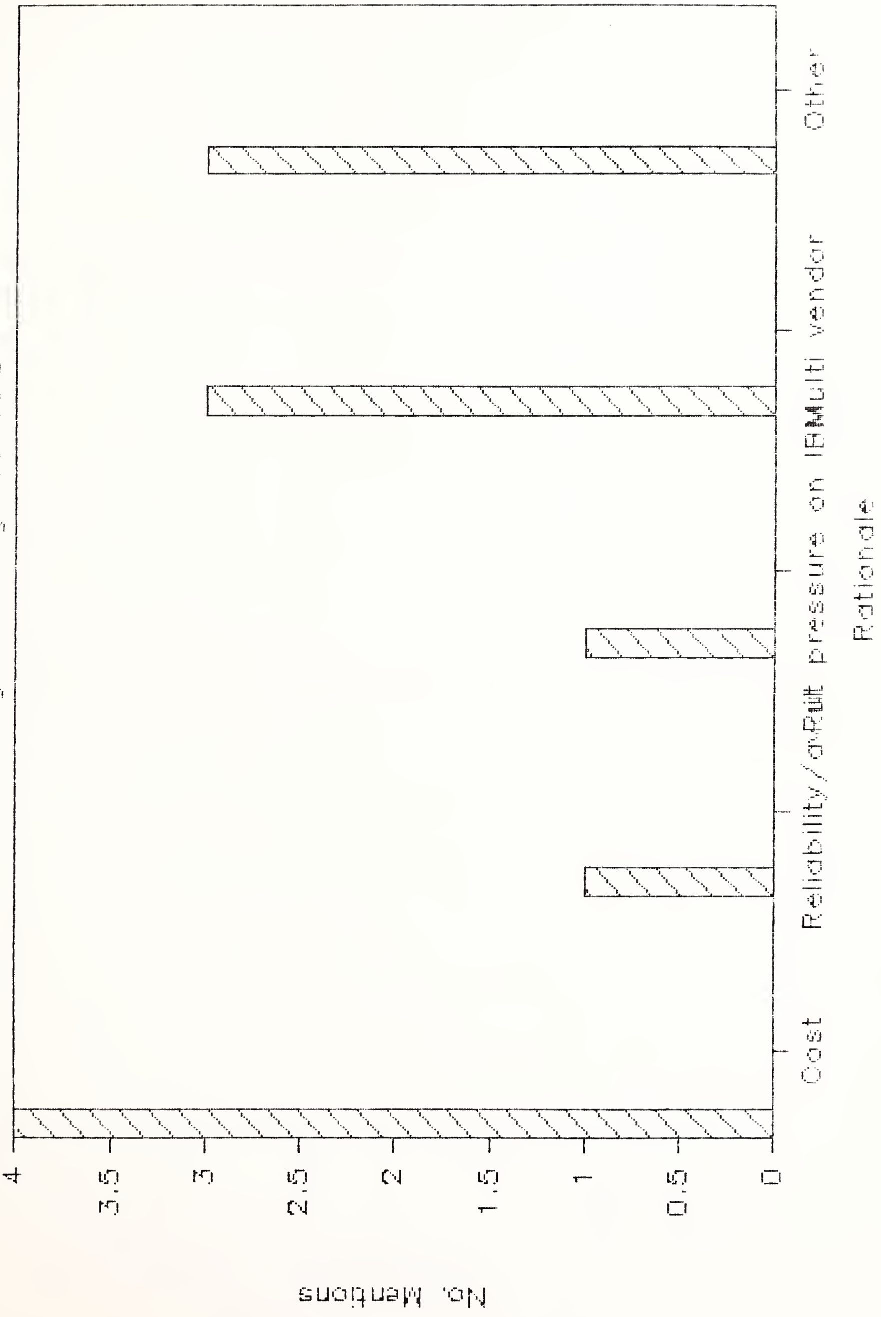
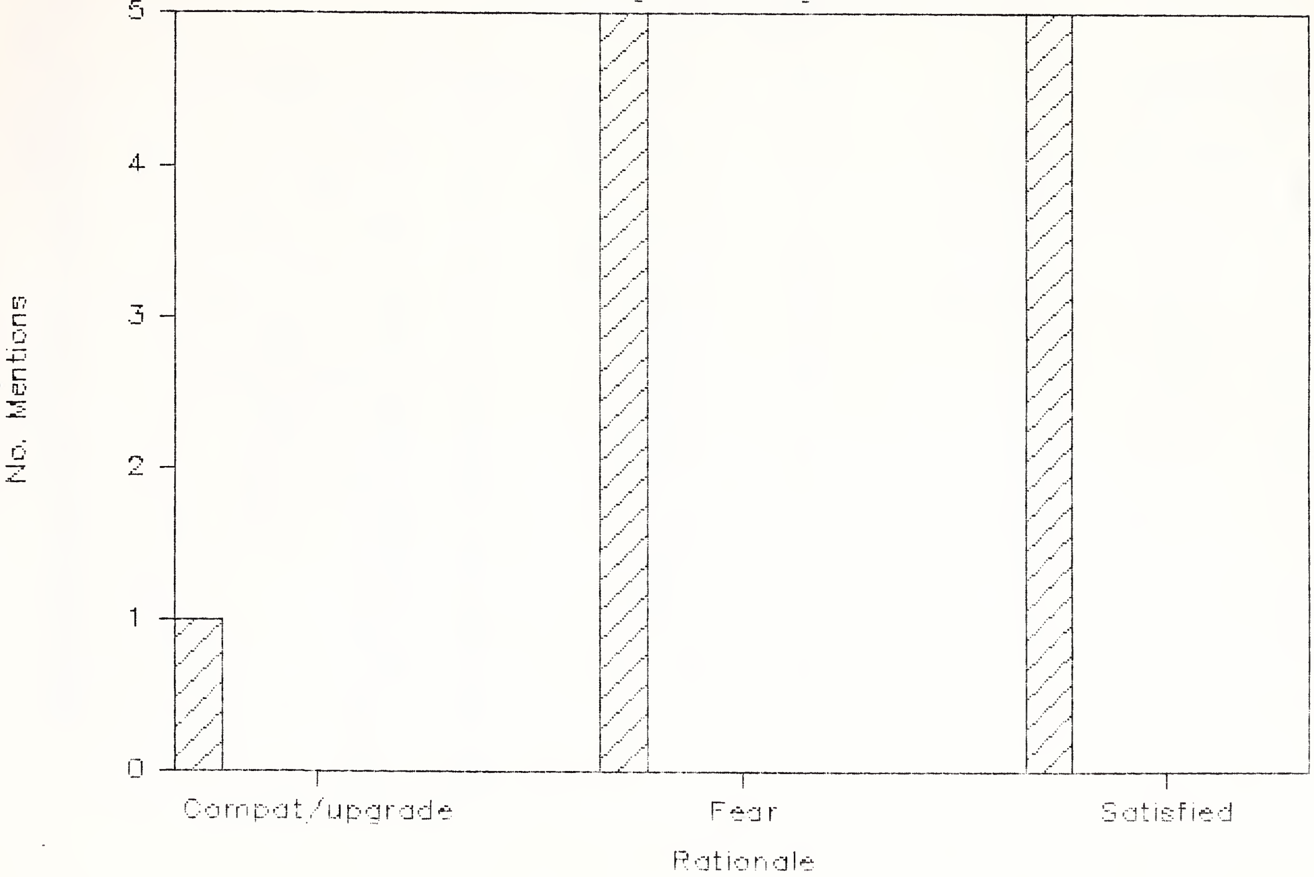


EXHIBIT III-30A

Unwilling To Change Vendors



costs, development time, personnel investment, etc).
- too costly.
- lack of supplier visibility.
- already satisfied with their suppliers' products and services.

- Some IBM respondents admit to fear, doubt and uncertainty. This technique of undermining competitors is fully exploited by IBM.

2. WHAT USERS SAY IT WOULD TAKE TO BE SOLD ON ANOTHER VENDOR

- According to Exhibit III-31 factors users claims are considerations for changing vendors include:

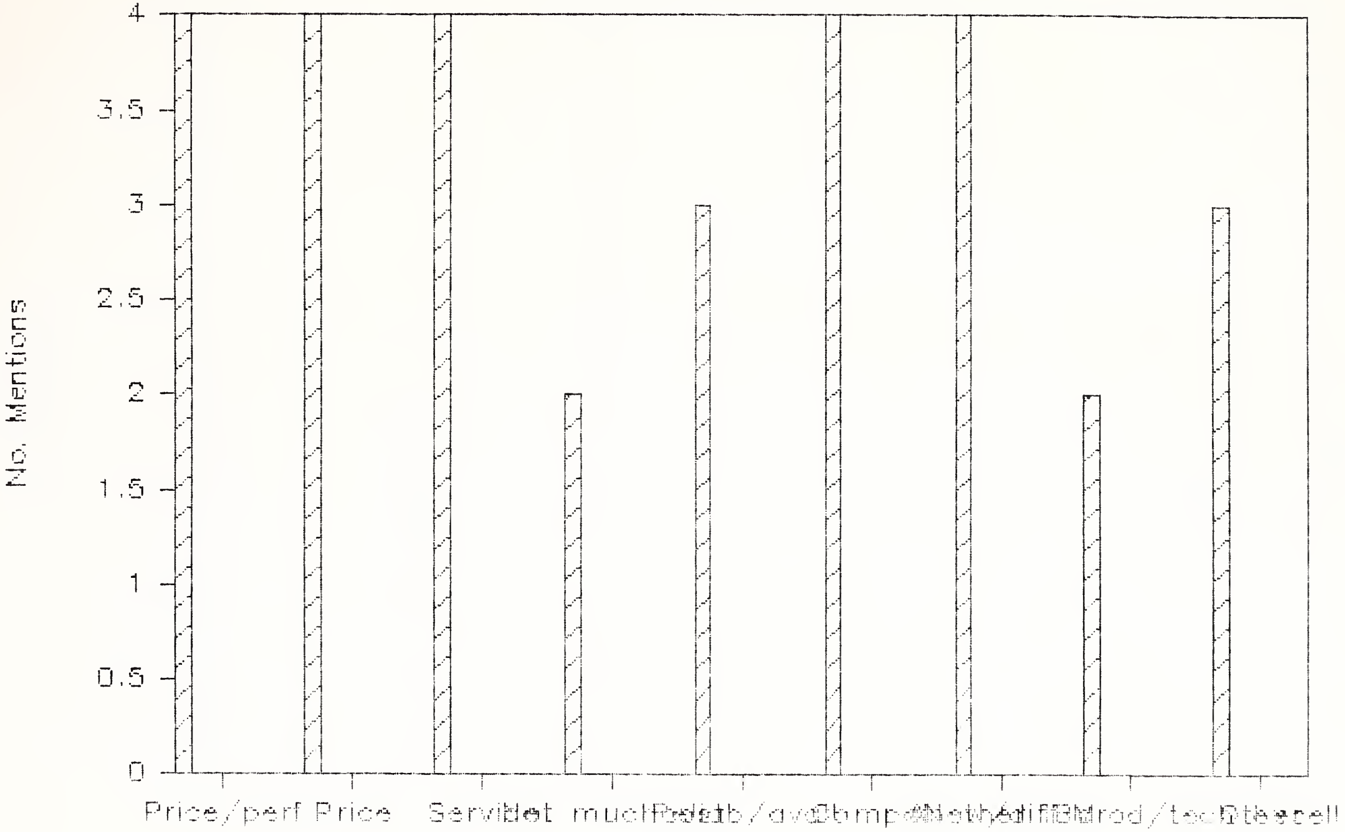
  - Price/performance
  - Price
  - Service
  - Assured guarantees of technical excellence and back up.
  - Real time applications/faster response time.
  - A company with the characteristics of IBM minus the sledgehammer tactics and prices.
  - Compatibility and upgradeability
  - High performance reliable products
  - Better software than IBM.

3. USERS CONSIDERATIONS OF BUYING FROM PCM'S AND LARGE SYSTEMS VENDORS

- Exhibit III-32 shows that respondents are more apt to buy from PCMs because of compatability.

EXHIBIT III—31

What It Takes To Be Sold



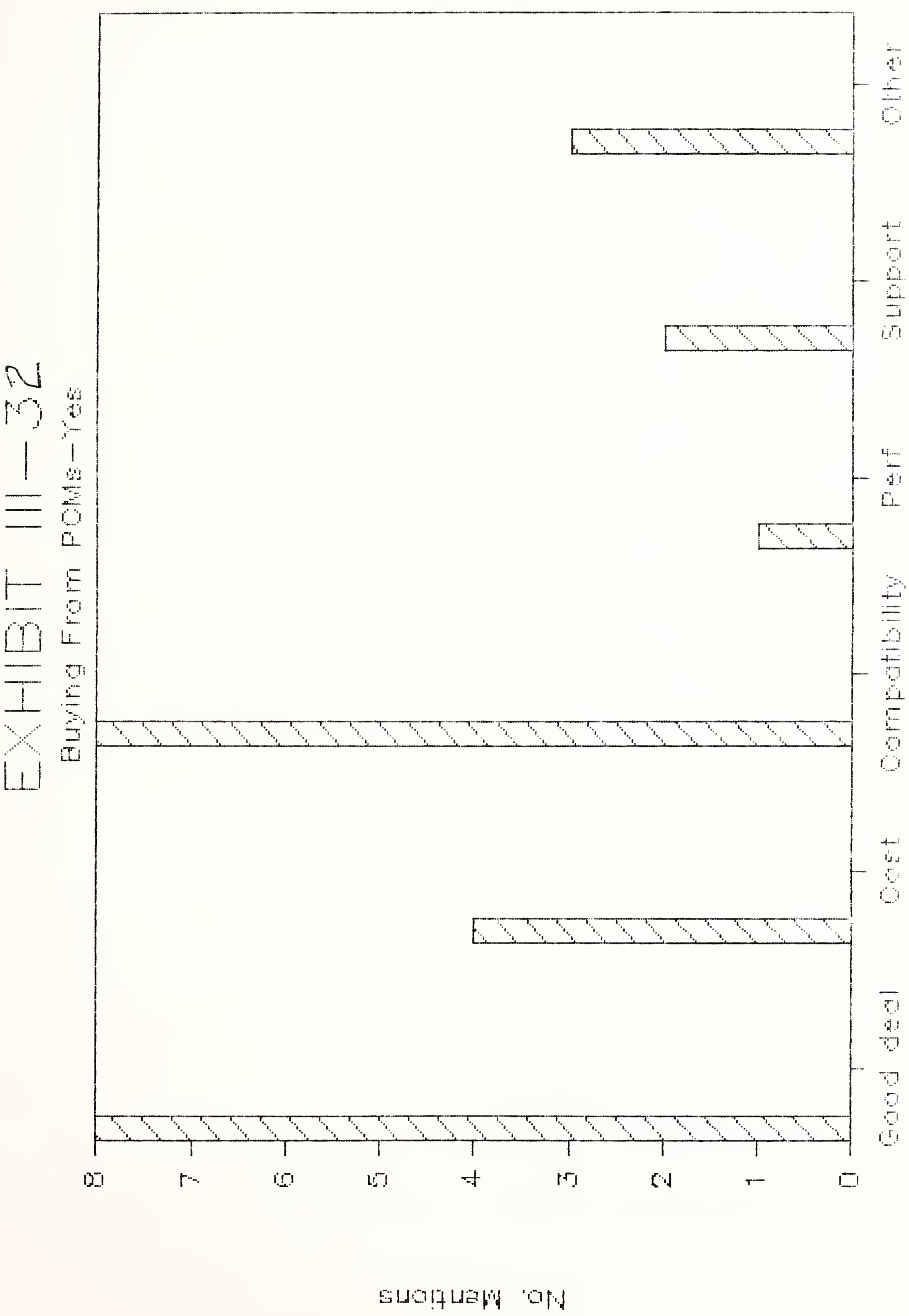
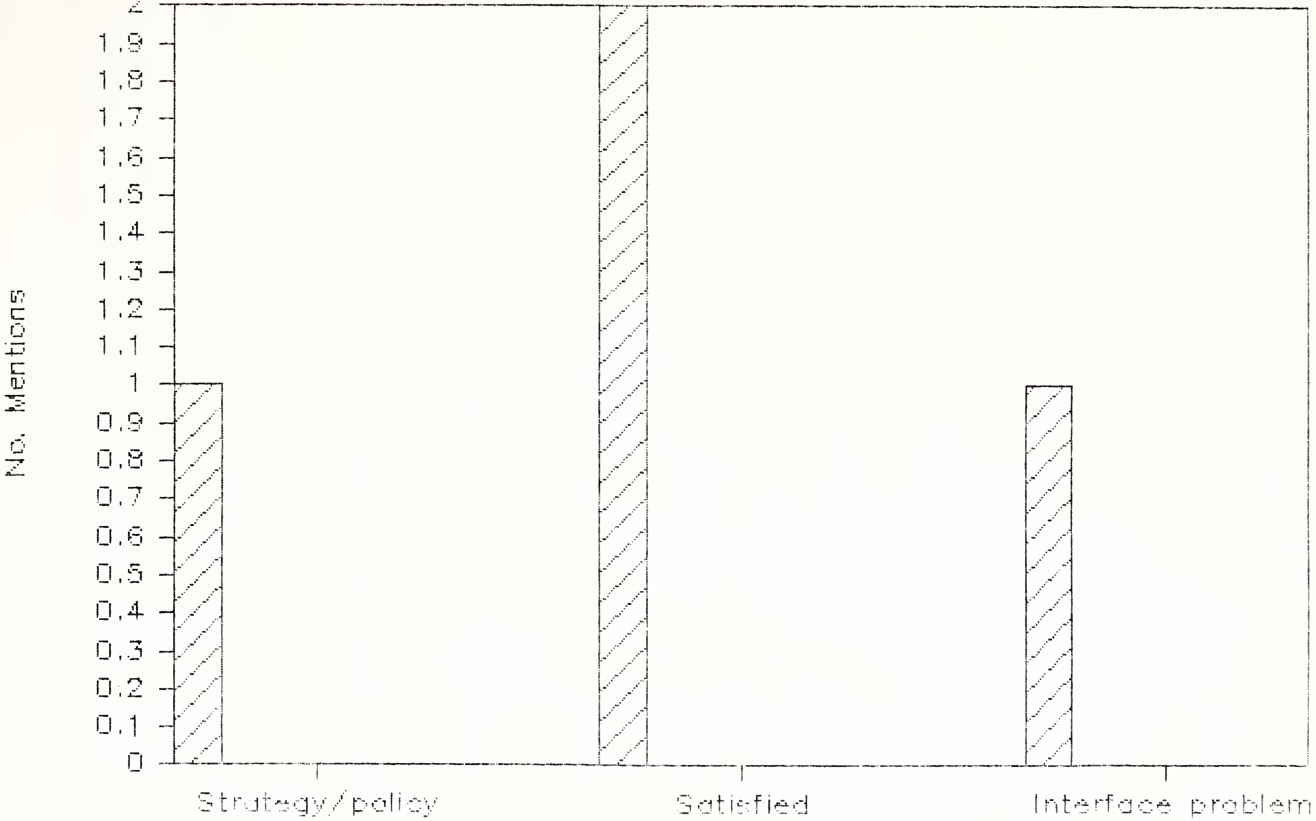


EXHIBIT III—32

Buying From POMs—Yes

EXHIBIT III—32A

Buying From PCMs—No



- The most frequently mentioned condition for buying from this group is that it must be a good deal for the buyer. Compatability, cost and support are also key conditions.

E. PERCEPTIONS OF VENDORS

1. PRODUCT RELIABILITY (EXHIBIT III-33)

- In perception terms, only IBM outranks NAS with regard to product reliability, but actual users of NAS rate NAS above IBM.

2. PRICE (EXHIBIT III-34)

- NAS is outranked by Amdahl with regard to price and commercial considerations among users and non users. Actual users of Amdahl equipment however, rate their supplier considerably lower than that attributed to NAS by their users.

- Some Amdahl users have stated that Amdahl's prices were more attractive than NAS.

- IBM is rated badly, both in perception and actual terms regarding price.

3. PRODUCT PERFORMANCE (EXHIBIT III-35)

- The perception by NAS and non-NAS users of NAS product performance is worse than Amdahl and non-Amdahl users for Amdahl product performance.

EXHIBIT 33

Product Reliability

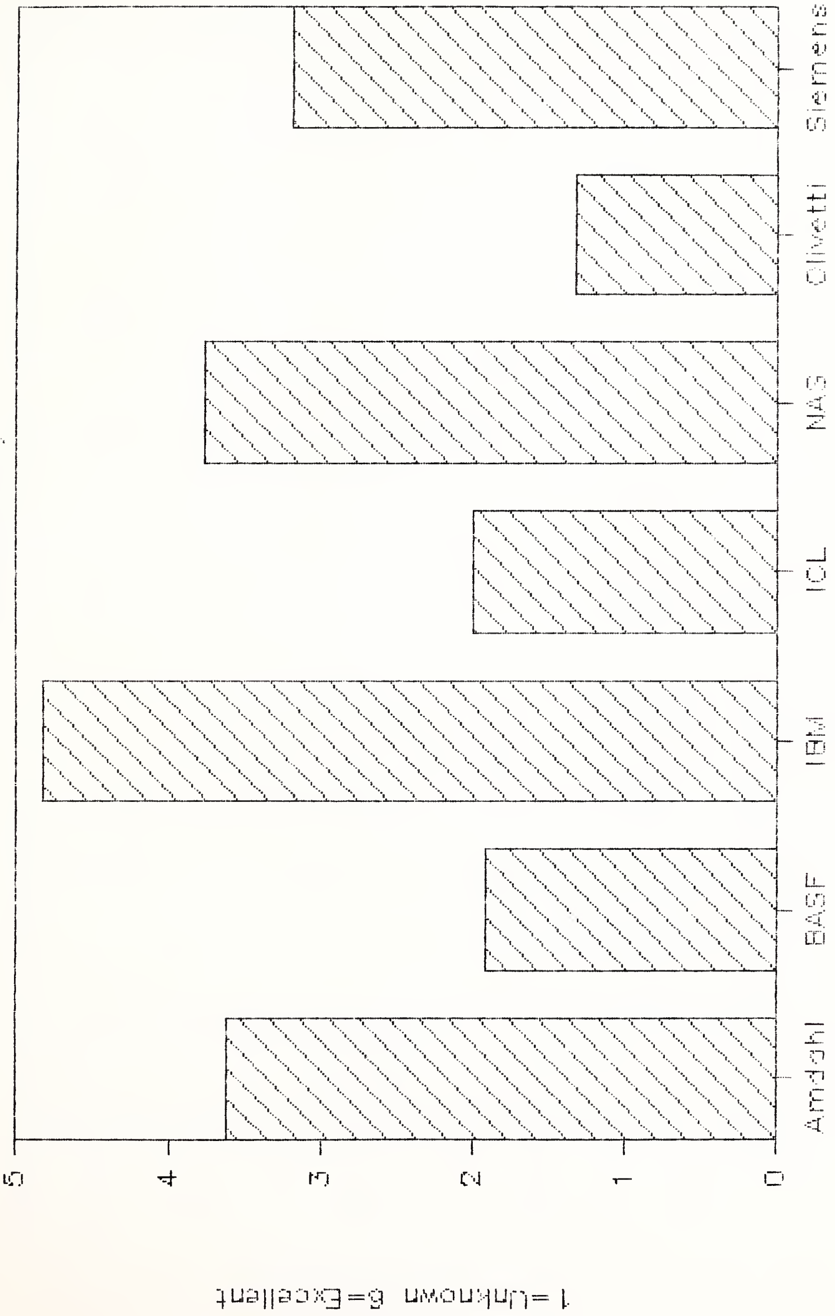
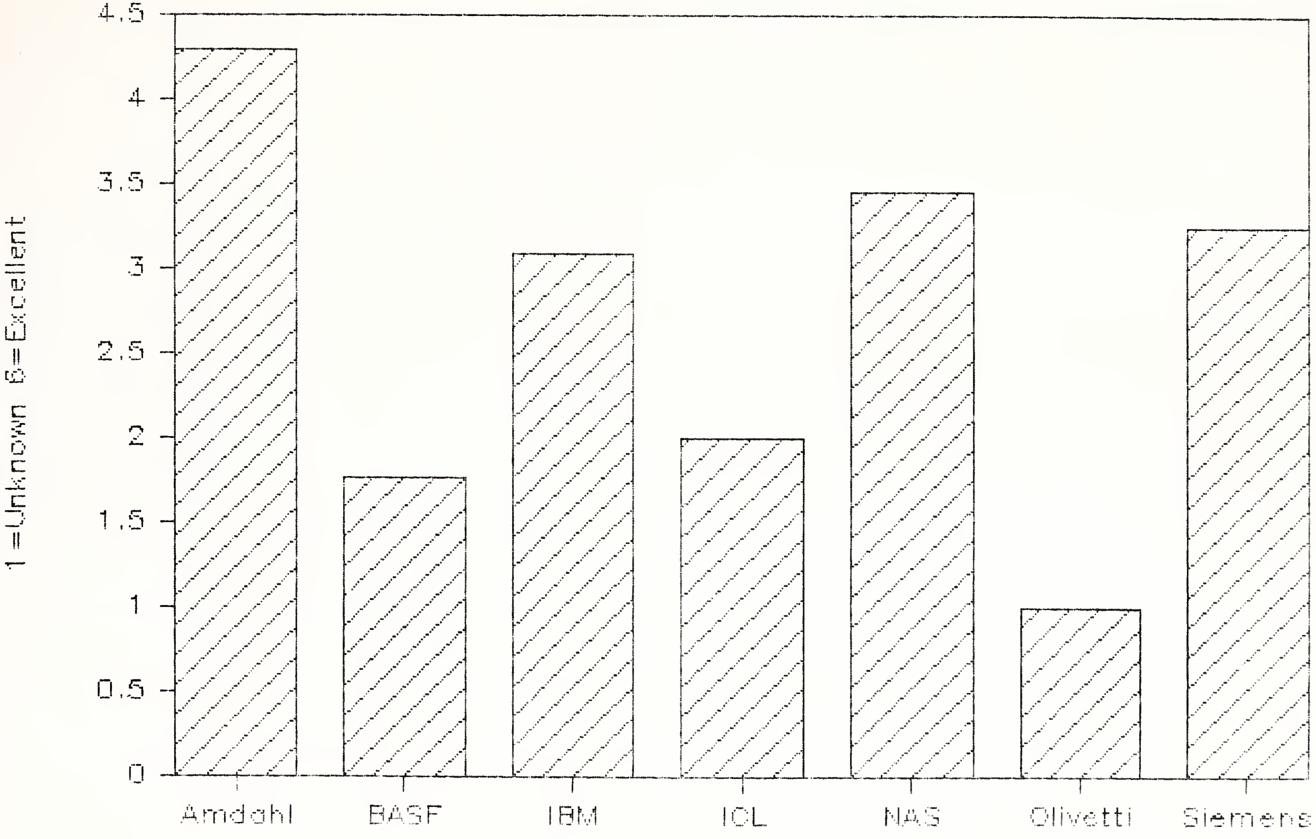


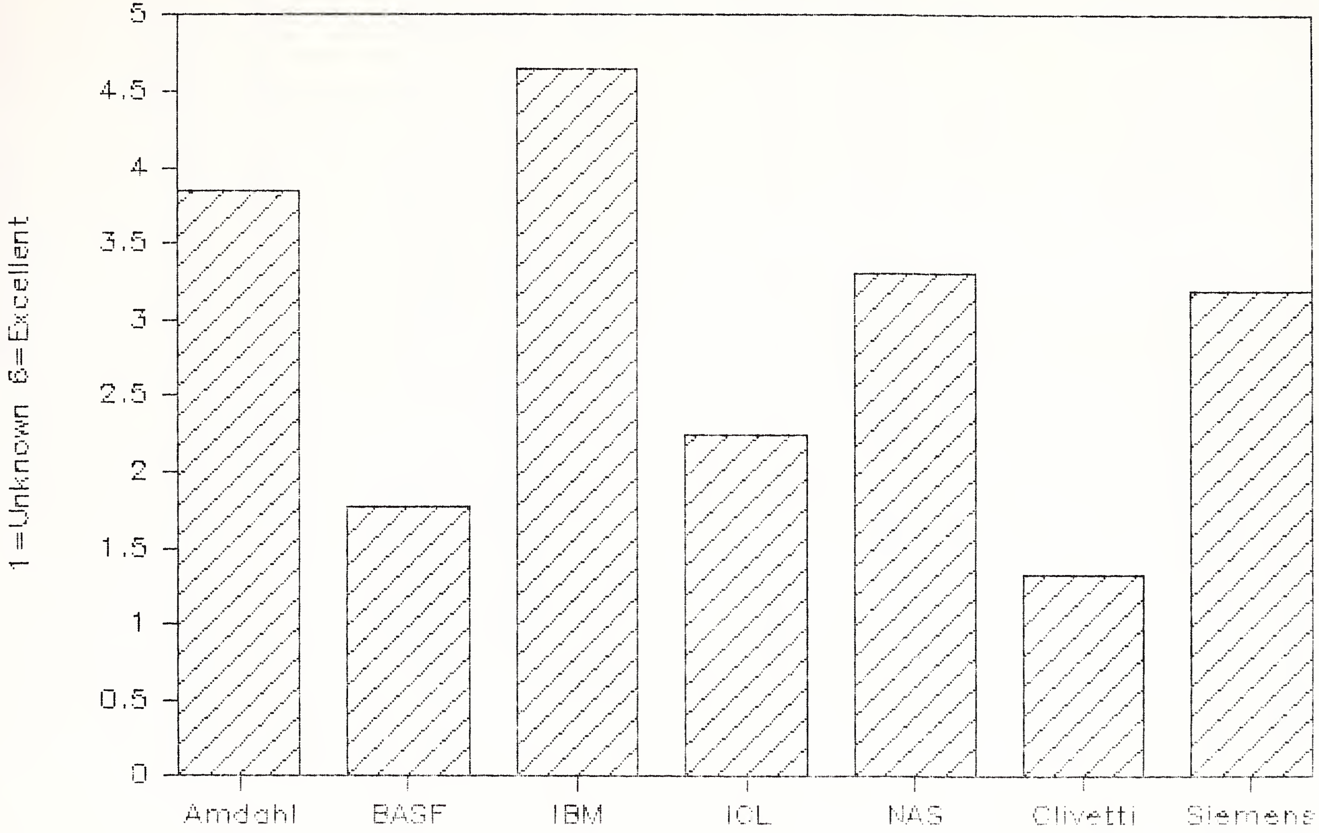
EXHIBIT 31



Price

EXHIBIT 35

Product Performance



- Actual performance of Amdahl products is rated highest of all suppliers.

- Although IBM rates highest in perception terms, actual users rate IBM's product performance lower than NAS, Amdahl and Siemens.

4. PRODUCT RANGE (EXHIBIT III-36)

- The perceptions of product range puts NAS in third place, behind IBM and Amdahl.

- Actual users also rate NAS after IBM and Amdahl (Exhibit III-15).

5. IMAGE (EXHIBIT III-37)

- NAS image as perceived by users and non-users is again in third position after IBM and Amdahl. Actual users of IBM and Amdahl equipment rate their respective vendors above the rating of NAS users for NAS equipment.

6. MARKETING STRENGTH (EXHIBIT III-38)

- NAS marketing strength is perceived as inferior to IBM, and Amdahl.

7. PERSONNEL (EXHIBIT III-39)

- Again NAS is superceded by IBM and NAS.

EXHIBIT 36

Product Range

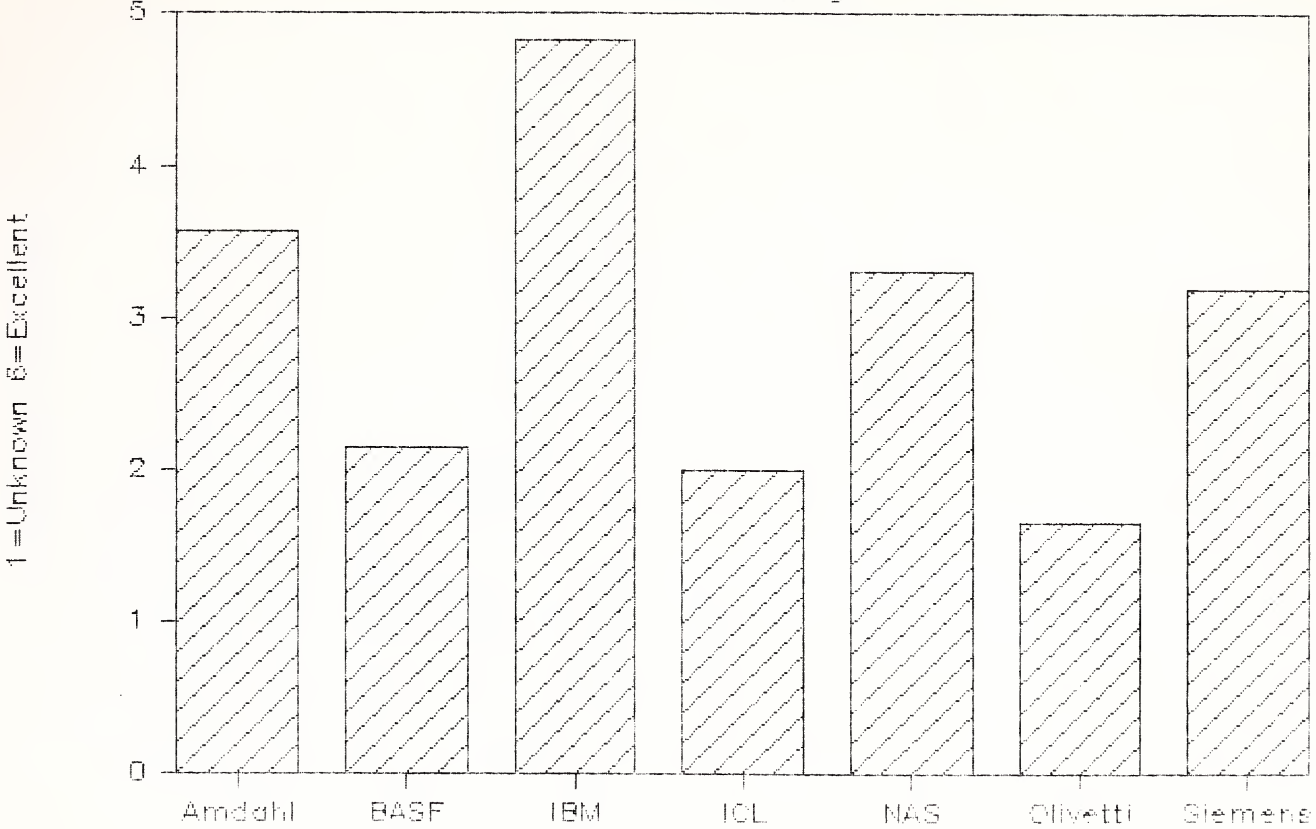
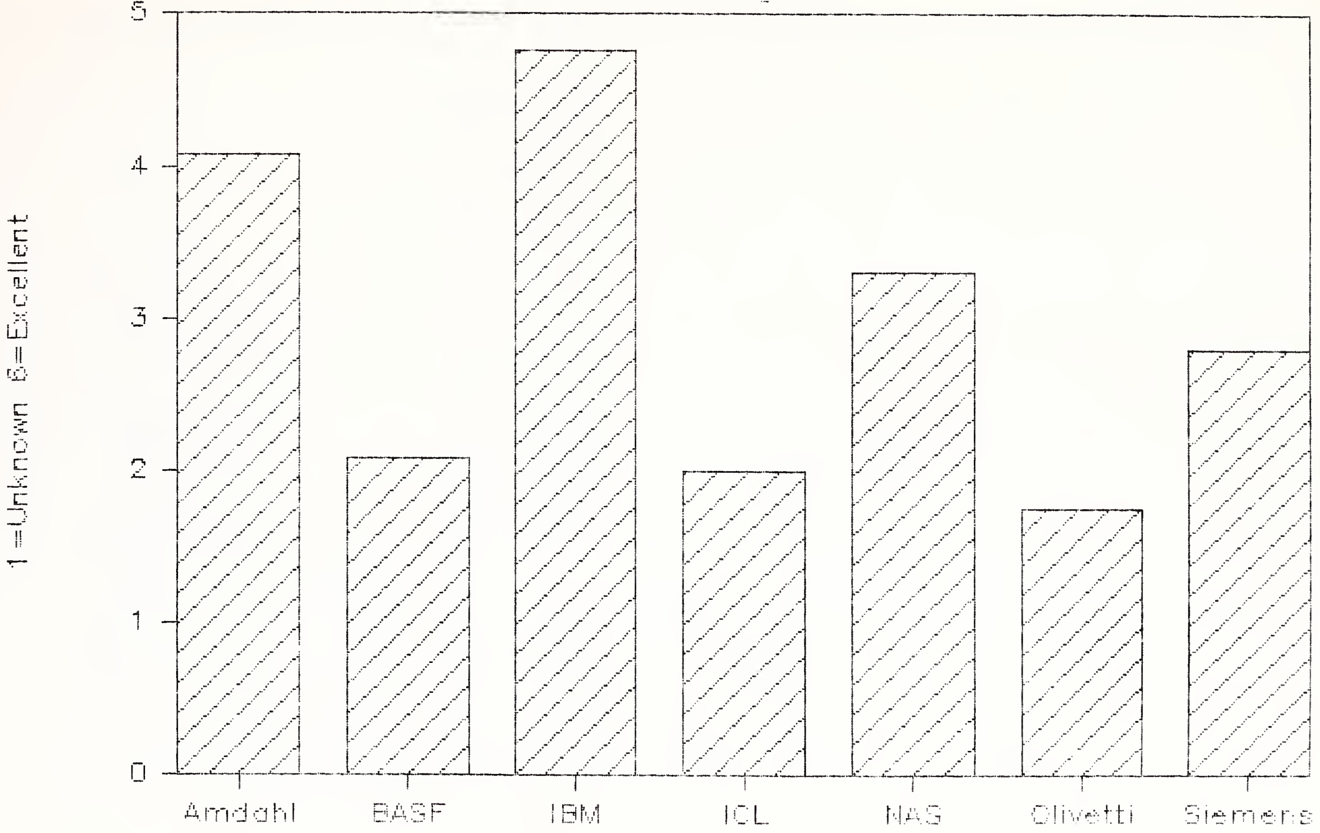


EXHIBIT 37

Image



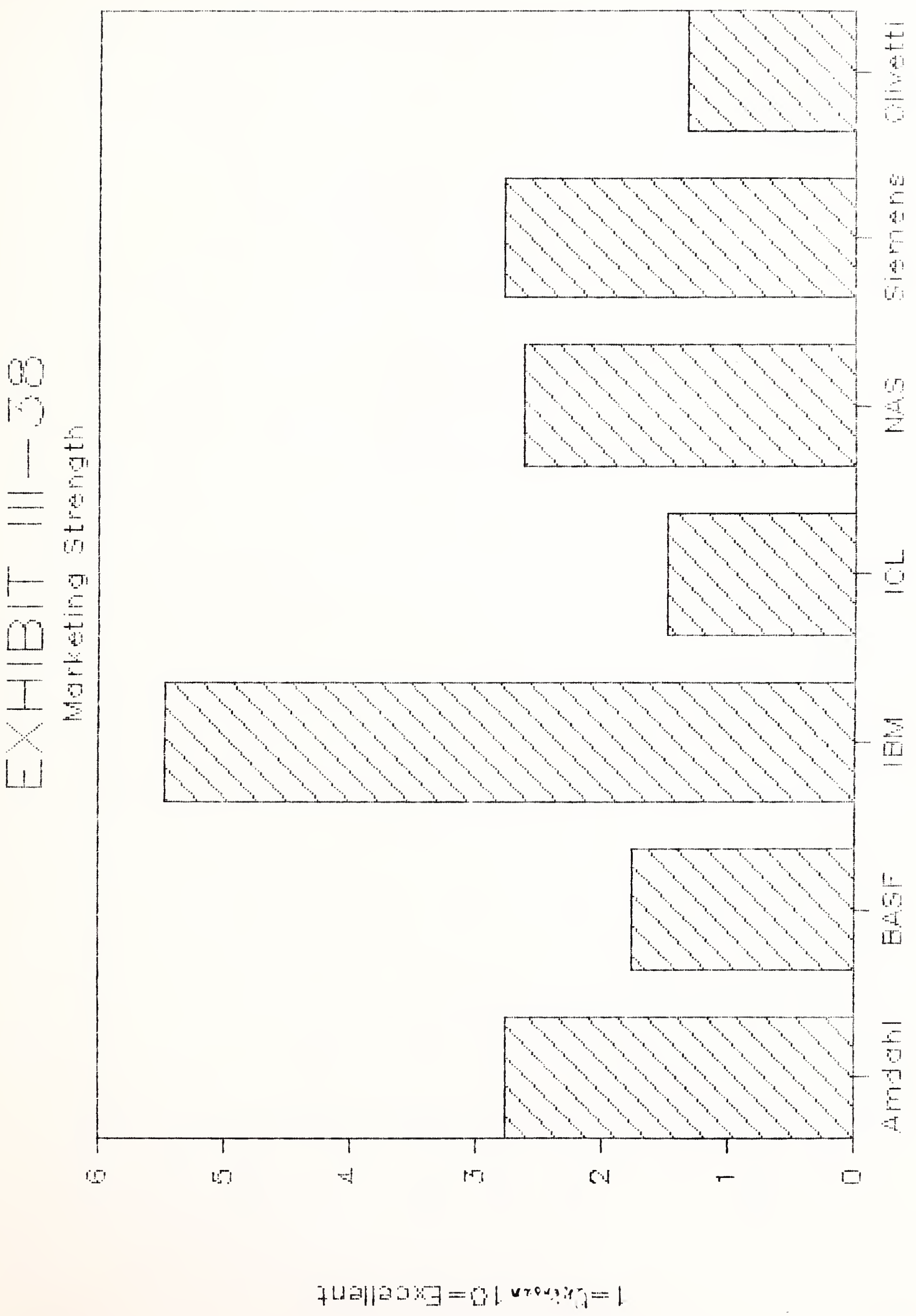
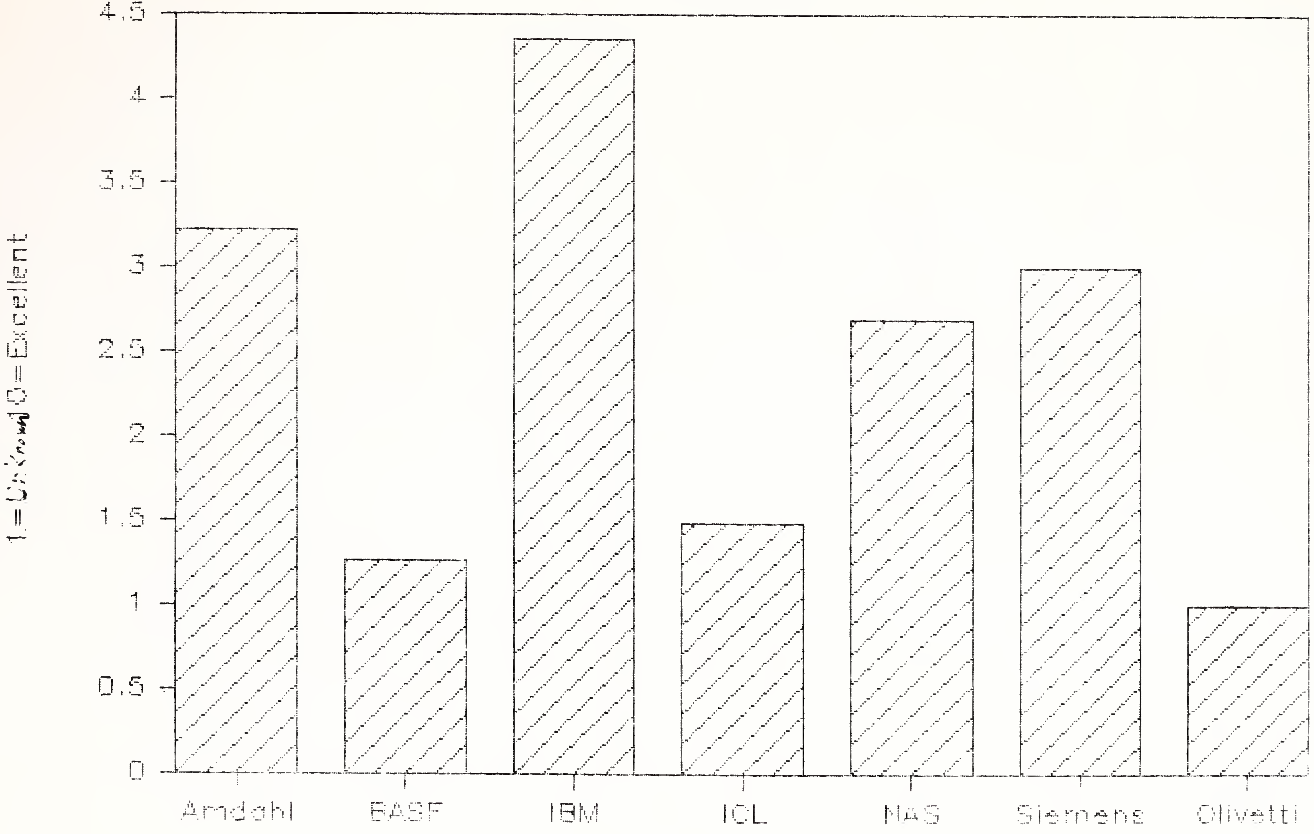


EXHIBIT III — 38

Marketing Strength

EXHIBIT III—39

Personnel



APPENDIX : QUESTIONNAIRE

QUESTIONNAIRE - YNAE

I. BASE DE GRANDS SYSTEMES

A. Quelle est la configuration de votre matériel*, à la fois celle qui est actuellement installée et celle qui est commandée ?

TYPE	VENDEUR	MODELE	NOMBRE D'UNITES INSTALLE	 COMMANDE	VALEUR**
UNITE DE TRAITEMENT CENTRALE					
MEMOIRE					
UNITE DE DISQUES					
DEROULEUR DE BANDE MAGNETIQUE					

II. PARAMETRES DE LOYAUTE

En ce qui concerne les vendeurs actuels de gros systèmes, comment évalueriez-vous votre loyauté vis-à-vis d'eux sur le plan de la durée de vos relations, des affaires futures, etc. et pourquoi

1 = Pas de loyauté, avons déjà changé de vendeur
2 = Pas de loyauté, nous nous attendons à changer de vendeur
3 = Pas de loyauté mais nous ne changerons pas de vendeur
4 = Loyaux mais nous considérons toujours les cotations d'autres vendeurs pour les nouvelles acquisitions
5 = Loyaux mais nous considérons parfois les cotations d'autres vendeurs pour de nouvelles acquisitions
6 = Loyaux et nous ne considérons jamais les cotations d'autres vendeurs pour de nouvelles acquisitions

A.

Vendeur(s) actuel(s)	Facteur de loyauté	Motif
____________	____________	____________
____________	____________	____________
____________	____________	____________

---

* A cette fin, un gros système est défini comme ayant une unité de traitement centrale ayant une valeur installée (si vendue) d'un million de livres sterling.

** Valeur - Installée au cours des 24 derniers mois

B. Veuillez décrire votre loyauté en fonction des rapports entre la société et ses produits. La loyauté est basée sur :

	AMDAHL	BASF	IBM	ICL	OLIVETTI	NAS	SIEMENS	Motif
50% société / 50% produit								
75% société / 25% produit								
100% société / 0% produit								
0% société / 100% produit								

C. Qu'est-ce-qui vous plaît ou vous irrite concernant votre ou vos vendeurs et produits actuels :

Vendeur	Plaisir	Irritation

Produit	Plaisir	Irritation

D. Veuillez estimer la période de temps pendant laquelle les relations d'affaires existaient entre votre firme et les gros vendeurs avant que votre firme ait effectivement acheté (loué avec contrat de leasing ou autre) à ceux-ci :

Vendeur	Durée des relations d'affaires avant l'acquisition

III.TENDANCES ET INFLUENCES EN MATIERE D'ACQUISITION

A. Exigences

Veuillez évaluer les caractéristiques suivantes en fonction de l'importance que vous leur attribuez lorsque vous prenez la décision d'acquérir de gros systèmes ainsi que la performance de vos vendeurs actuels.

Exigence	Degré d'importance pour vous (1=médiocre,10=extrêmement élevé)	Degré de performance par le ou les vendeurs actuels (1=médiocre,10=excellent)						
		AMDAHL	BASF	IBM	ICL	OLIVETTI	NAS	SIEMENS
1. Tangible - Produit								
a. Prix (absolu)								
b. Performance								
c. Prix/Performance								
d. Comptabilité								
e. Possibilité d'amélioration								
f. Fiabilité								
g. Disponibilité								
h. Qualité								
i. Milieu ambiant								
j. Surface requise								
k. Service de consulting vous aidant à déterminer les besoins								
m. Autres								
2. Tangible - Assistance								
a. Matériel								
b. Maintenance du logiciel								
c. Consulting en matière de système								
3. Tangible - Société								
a. Gamme de produits								
b. Importance de la Société								
c. Localisation de la Société								
d. Condition financière								
e. Stabilité								
f. Organisation de dépannage								
g. Effort avant la vente								
h. Assistance après-vente								
4. Intangible - Produits								
a. Effets de l'équipement sur les employés								
b. Effets de l'équipement sur les clients								
c. Autre								

	AMDAHL	BASF	IBM	ICL	OLIVETTI	NAS	SIEMENS
5. Intangible - Société							
a. Relations de la direction							
b. Vendeur							
c. Personnel auxiliaire							
d. Personnel des systèmes							
e. Communications dans l'ensemble							
f. Réputation							
g. Image							
h. Visibilité							
i. Publicité							
j. Crédibilité							
k. Minimum d'embêtements							
l. Style et fréquence des réceptions							
m. Autre							

6. Quelle est celle de ces exigences qui, à votre avis, devrait prendre plus d'importance ou moins d'importance à l'avenir et pourquoi ?

B. Rôle

Quel est votre rôle le plus important ? (par ex. accroître la disponibilité du système, réduire les frais en tant que pourcentage des revenus, etc.).

C. Questions extérieures

Veuillez spécifier, s'il y a lieu, quels sont les facteurs extérieurs (nationalisme*, durée de vie du produit plus brève, changements dans l'industrie, etc.) qui affectent votre manière d'envisager le produit, le vendeur et votre acquisition/décision d'acheter et dans quelle mesure.

* C'est-à-dire accordez-vous la préférence aux fabricants de votre pays ?

IV

A. Comment décririez-vous le processus de décision d'achat de votre société dans le cadre des grands systèmes ?

Aspect	Commentaires
1. Nombre de personnes concernées	
2. Echelons des personnes concernées	
3. Période de temps pendant laquelle elles sont concernées	
4. Politique de la société d'acheter à certains vendeurs	
5. Marché libre	
6. Recommandation d'un vendeur ou consultant	
7. Autre	

B. Qui :

1. Identifie le besoin de gros systèmes ?
2. Recommande ?
3. Prend la décision finale ?

C. Quel est le pourcentage des recommandations ou des décisions en matière de gros systèmes dont il n'est pas tenu compte et pourquoi ?

V. TENDANCE A CHANGER DE VENDEUR

A. Comment caractériseriez-vous la tendance de votre société à changer de vendeur de gros systèmes.

		Degré de changement	
Type	Motif	Partiel	Total
1. Peu disposée			
2. Disposée			

B. Que faudrait-il pour que votre société achète à un autre vendeur ?

VI. MANIERE DE PERCEVOIR LE VENDEUR

A. Donnez-nous votre impression des sociétés suivantes et de leurs aptitudes.

(1=connaît pas, 2=inacceptable, 3=acceptable, 4=adéquate, 5=bonne, 6=excellente)

	SOCIETE						
APTITUDES	AMDAHL	BASF	IBM	ICL (UK only)	MAS	OLIVETTI (Italy only)	STEMENS (Germany only)
1. Gamme de produits							
2. Performance des produits							
3. Fiabilité des produits							
4. Prix							
5. Image de la Société							
6. Force du marketing							
7. Personnel							

B. Considèreriez-vous d'acheter ce qu'il vous faudra à l'avenir, le cas échéant, en vous adressant à l'une de ces firmes qui ne sont pas actuellement vos fournisseurs ? Pourquoi ou pourquoi pas ?

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